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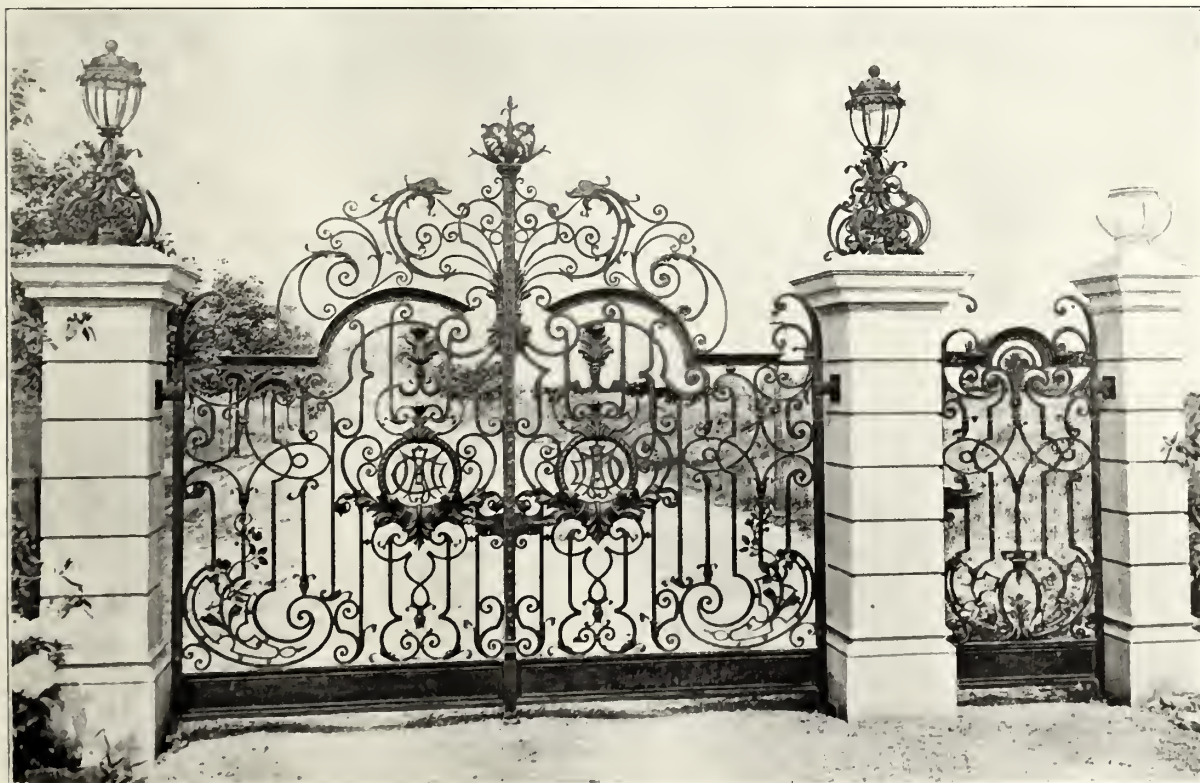
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MARCH, 1915

SPECIAL FEATURES IN THIS ISSUE

Recreation Features in Hartford Parks—History and Practice of Cremation—Selling
Cemetery Lots on Credit—Organizing and Developing a Modern Cemetery—
Remodeling a New England Cemetery—Problems of Our National Parks



ARTISTIC DESIGN OF WROUGHT IRON ENTRANCE GATES AND LANTERNS.

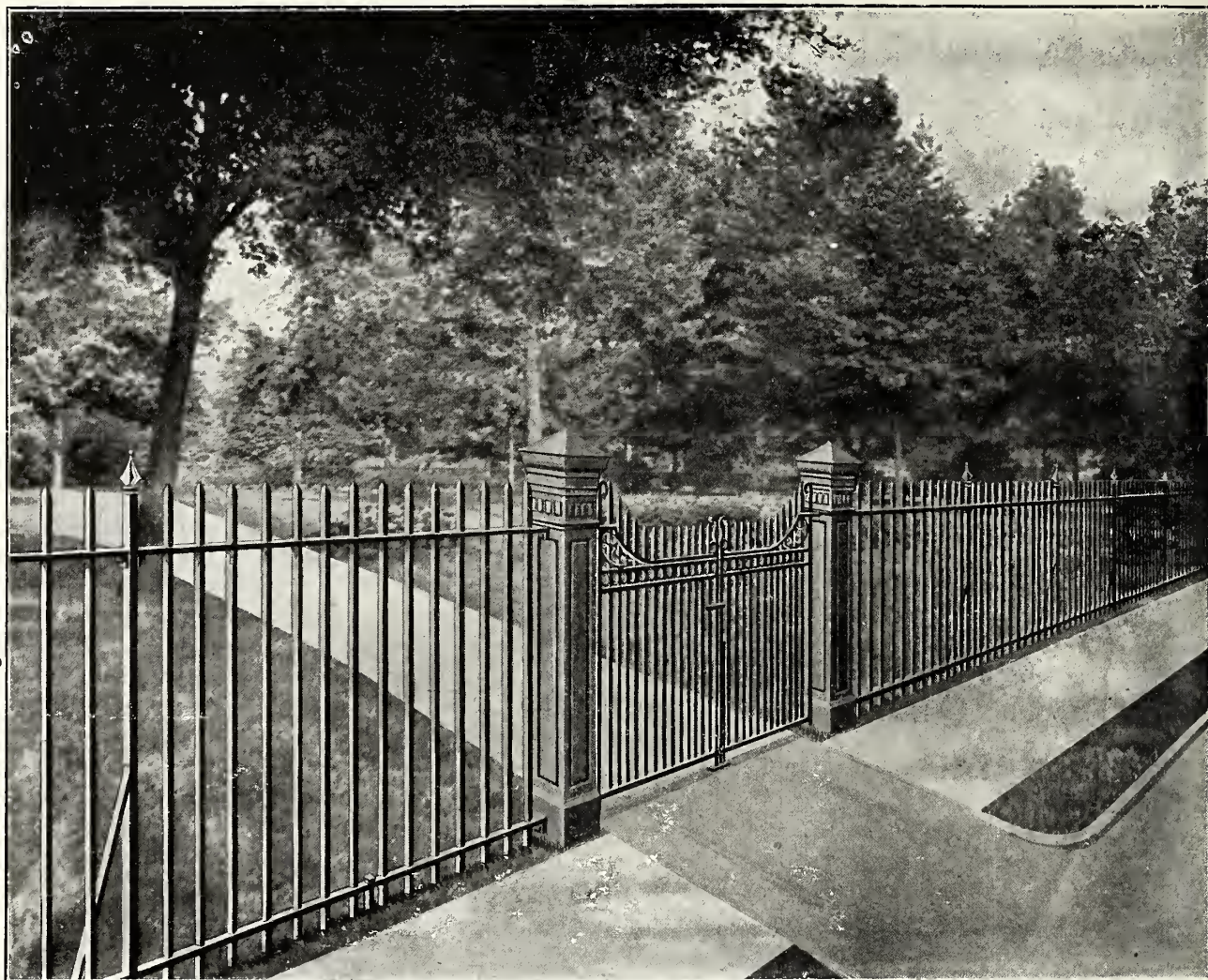
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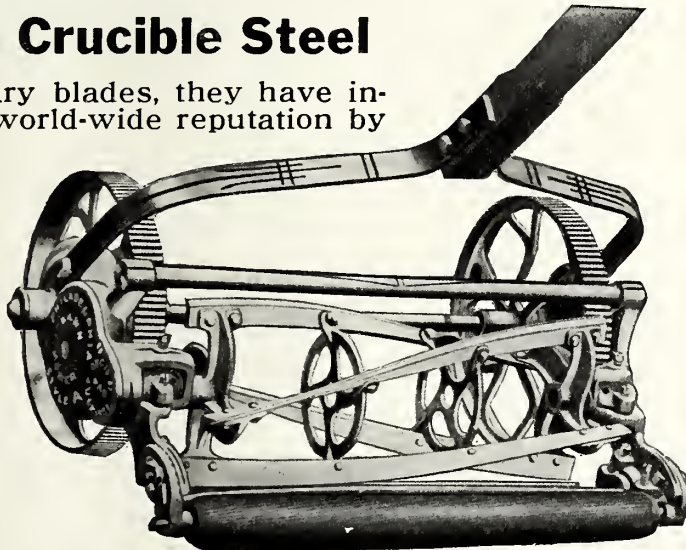
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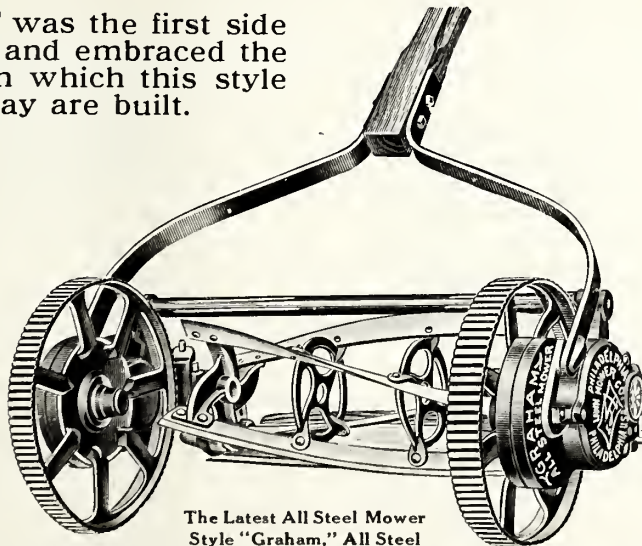
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MARCH, 1915

EDITORIAL

VOL. XXV No. 1

Locating a New Cemetery

The necessity for expert study and expert advice in selecting the ground for a new cemetery and in the preparations for its development is forcibly presented in our article by Messrs. Hare on another page in this issue. The folly of the amateur handling of this question as a real estate or speculative proposition is at once clear when we give careful attention to the many important considerations involved in selecting land for a cemetery. The matter of the underlying soil, for example, is a most important factor and might in itself cause the success or failure of a cemetery enterprise. The proper study of this question would be manifestly impossible except by one trained in cemetery development problems. As is pointed out in this article, the soil should be suitable for the growth of trees, shrubs and other plants and for lawn making, a rich loam being ideal. A light sandy soil is preferable to heavy clay or gravel. The subsoil is also of much importance because of ease in excavating. It should be suf-

ficiently solid to prevent caving, yet not so hard as to be expensive to handle, or so impervious as to hold water, good drainage being highly important, although lack of it is a fault that can be remedied without prohibitive cost. Rock is very undesirable, because the expense of excavating a grave is often more than the greatest possible charge for the service. Moreover, blasting is dangerous to the workers and visitors in a cemetery; it is apt to damage lawns and monuments, and is inconsistent with the peace and quiet of the surroundings. Large boulders may also cause much difficulty. In some localities it has been necessary to trench the ground to a depth of five or six feet and remove all the large boulders. The proper development of a cemetery is the work of many years and demands the expenditure of much money and intelligent planning. The many considerations involved in the first steps toward the making of a cemetery are admirably set forth in this article.

More About Municipal Forestry

"I note in your editorial called 'Possibilities of Municipal Forestry,' in your February number of PARK AND CEMETERY, that the Forest Service states there are ninety-seven municipal forests in this country. I want to call your attention to the fact that this is an error," writes Harris A. Reynolds, secretary of the Massachusetts Forestry Association. "There are nine states in this country that have laws permitting towns to have such forests, but with one exception there is not a Town Forest legally established in this country. That exception is the city of Fitchburg, which last December set aside one hundred and five acres as a Town Forest. This land is not connected with its parks or water supply in any way. There are a great many cities in the country that have forests on their watersheds or that have started to reforest their watersheds, but this is in connection with the protection of their water supply, and the land has not been set aside as a Town Forest under the laws of the state. I happen to be pretty familiar with this subject at present, as I have had occasion to correspond with all of the states and a great many cities and towns concerning their so-called Town Forests.

For instance, I have written to all of the places mentioned in the bulletin prepared by the Forest Service and in no case do these areas represent Town Forests established as such." The Massachusetts Forestry Association has issued an interesting bulletin which describes the Town Forest contest promoted by this association in order to encourage the establishment of such forests in Massachusetts. Fifty acres will be planted to three-year-old white pine transplants, 1,200 trees to the acre, with a guarantee of 75 per cent for one year, by the Massachusetts Forestry Association, in the "Town Forest" of the city or town in Massachusetts which meets the requirements set forth in the Rules of Contest, and obtains the highest number of points under conditions expressed in number seven of those rules. A city or town wishing to enter the contest must have acquired by gift or purchase at least 100 acres of land and have set it aside officially as a "Town Forest." Other details of this interesting contest are set forth in the bulletin above mentioned and have been previously discussed in these pages.

Wholesale Tree Planting for Arbor Day

For the past two years the New York State College of Forestry at Syracuse has been interesting high schools in the planting of one or more thousand trees on Arbor Day in the place of the planting of a few shade trees only. That is, the college is urging that Arbor Day be made a forest day in place of a tree day. The right kind of evergreens or hardwoods for planting in different parts of the state may be ordered through the college at from \$3.50 to \$5 per thousand. In most instances the college is urging the use of rapid-growing evergreens. In every community there is a piece of idle land, such as a barren hillside, the owner of which will be glad to have it planted up to trees. If the pupils of the school or the school will purchase a thousand or two of trees and set aside a day or more for their planting, as may be needed, the college will send one of its foresters out at no

expense to supervise the planting. This is done because the college feels that if the boys of the state help in the planting of a forest, the forest fire question will be very largely settled. No boy who has helped plant a thousand trees and has watched them grow will go into the woods and leave a camp fire or throw down a burning match. If some of the \$85,000 which is used annually for the protection of the Adirondacks from fire could be used in interesting schools in planting, there would be annually less necessity for the expenditure of funds in the Adirondacks for fire protection. Beside the question of protection, the boys and girls will be brought into intimate contact with real constructive work and will understand the meaning of the idle land question in the state. A number of schools began this work in 1913 and 1914 and it is expected that a good many will carry on this kind of planting this year.

RECREATION FEATURES IN HARTFORD PARKS

Extracts from the Reports of George A. Parker, Superintendent of Parks, and S. W. Dixon, Supervisor of Recreation, Hartford, Conn.



"CAMP FIRE GIRLS," SERVING DINNER AT ONE OF THE FOUR FIREPLACES IN GOODWIN PARK, HARTFORD, CONN.

Gradually and almost unconsciously recreation work has come to be a part of park work. It came first, because parks were open grounds and recreation needed open grounds; but as the work has gone on, the realization has come that park and recreation requirements are so closely related and united that neither can be successfully maintained without the other.

What, then, is now meant by recreation? Much has been written about "Municipal Recreation," especially during the last ten years. At first it meant play for children, but its meaning has expanded until now it includes whatever is done during the leisure hours of the people as individuals, or as groups, or as a whole. It has three divisions:

1. Private recreation which takes place at home or socially with friends and neighbors, and to which the public has no part.
2. Public recreation owned and exploited for private gain.
3. Public recreation publicly owned, which is either free or furnished at cost or nearly so.

The cost of municipal recreation has been met up to the present time by appropriations expended in part by the "amusement committee" of the City Council, partly by the "Board of School Visitors" and partly by the "Board of Park Commissioners," and once an appropriation has been made at the request of the "Juvenile Commission," and all paid out of the city treasury.

Many things should always be maintained at public expense, such as scenic beauty, roads, walks, shelter, water, toilets, and the caretaking and policing, and all

things needed for the public recreation facilities for children under 16 years old.

The recreation activities of the parks have increased about 40 per cent each year during the last five years. At the beginning of the present year it seemed very necessary that a specially trained and experienced man in recreation work should be employed. S. Wales Dixon was engaged for the place.

The following extracts from Mr. Dixon's report tell of some of the more unusual features of recreation in addition to the usual park activities of baseball, football, golf, tennis, etc.:

BOWLING ON THE GREEN.

Interest in this ancient game has steadily increased, both with players and spectators, and now with the two successful clubs organized and the attendant good-natured rivalry existing, the game is sure to grow with each succeeding year. Many new friends were enlisted during the past season. The greens are located in Colt Park.

QUOITS.

Scotch Quoiting is a real man's game, and has many followers in Hartford. It is surely interesting to see the players tossing the great discs with an accuracy and precision all their own, and which puts them in a class by themselves. It is a far superior game to the ordinary ring or horseshoe, although more people seem to play the latter easier type. The games are played evenings and Saturdays chiefly at Pope Park.

CROQUET.

Croquet is played in various parks in connection with picnics, parties, and by those who are waiting for a tennis court. Persons who are unable to pursue vigorous games are apt to enjoy croquet, and many who formerly considered it of little interest, now see in it much of value.

FLAG DAY.

This event was celebrated at the north front of the State Library and a great crowd of people were present. Schools and other societies participated, and part of the audience were seated on park benches arranged before the entrance. New York City's Park Commissioner was the speaker of the day.

JULY FOURTH.

The Municipal Celebration of Independence Day was entirely held on park areas. A program continuous from 8 a. m. to 10 p. m. and which was arranged to include groups of all ages (even the elderly folks) was carried out in full. Baseball, tennis, golf, athletics, wrestling, kite flying, Boy Scouts and folk dancing consumed the morning hours, while a regatta on the beautiful basin of the Connecticut River off Riverside Park, a band concert and daylight fireworks, were held in the afternoon and brought out a great throng of people, while the evening fireworks and band concert brought out a still greater crowd—a total for the day of fifty-two thousand four hundred.

DANCING ON THE GREEN.

Probably the most beautiful feature of all recreative activities were the parties engaged in dancing on the green at Goodwin, Bushnell and Colt Parks. The schools and the Central Labor Union danced at night, under a canopy of varicolored lights. Bands were in attendance and friends in great numbers enjoyed the occasions.

PLAYGROUNDS.

Parks, no matter how much of a beauty spot from the standpoint of lawns, flowers, shrubs and trees, are still more beautiful when graced by the presence of a sunny group of happy children at play. All parks contributed their share of area for this purpose, and some idea of playground popularity may be gained by the fact that the attendance of children and others older, passed well beyond the two hundred thousand mark, and covered a period of about four months.



MAY FESTIVAL, GOODWIN PARK, HARTFORD, CONN. THIRTY-FIVE MAYPOLES IN USE; MILITARY BAND ON STAND IN CENTER.

SCHOOL GARDENS.

Two gardens were maintained, one each in Riverside Park and Colt Park. Approximately 250 plots were allotted to children, who planted, cared for, and reaped the harvest of choice vegetables. Plots not kept up to standard are given to others on a waiting list but this rarely occurs.

OUT-DOOR GYMNASIUM.

On the plateaus at Pope Park are daily gathered the children and also at night the grown-ups of the factory district. Bright lights make evening work possible and the gymnasium is a popular place, and certainly doing good work. Around the gymnasium is a row of swings, always occupied, and with a waiting list. Here the family may gather to look on, or to engage in some form of sport or play. Over seventy-one thousand was the attendance of those who took advantage of the privileges there.

WADING POOL.

Always at the edge of the little lake at Pope Park is found a group of "waders." This lake is too deep for safety, and it seems that a pool, or several of them, perhaps small and shallow not to exceed two feet in depth should be provided where children may wade and splash in peace and safety, and may be when the Nepaug Water System is completed. Such pools should be kept clean, and with running water.

PICNICS.

Every effort is made to assist picnic parties, large or small, visiting the parks, to get the most out of their day's outing. It is hoped to extend this phase of our work, until we reach not only the children but the entire family, which will then make picnics of superior importance. About forty permits were issued for such parties. Elizabeth Park was the chief rendezvous for such gatherings, with Goodwin Park a close second. Receptacles for papers, etc., are conveniently located, and the public shows its appreciation by using them and otherwise keeping the grounds clean. The largest picnics, with an all-day program are grouped under the head of "Field Days."

FIELD DAYS.

Several gatherings of great groups, such as the public schools, and Central Labor Union, were held on Colt and Elizabeth Parks during the summer. An athletic field with full equipment staked out and roped off to confine the spectators, was necessary on each occasion. Bands furnished the music, and some large crowds were present. Probably the largest group was that of the Central Labor Union, whose Labor-Day party was surely a great event. The men brought their families, and although the program was largely arranged for the men, the children and the other members of the

family were cared for by the athletics and on the playgrounds. Over thirty thousand were cared for on these occasions.

FESTIVALS.

The schools were leaders in the production of festive occasions held in the "open", usually at Goodwin Park where the setting is superb for such affairs. Fortunate indeed were those people who witnessed them, and happy were the children who participated—it was a picture long to be remembered. Nearly fourteen thousand were thus interested.



LABOR DAY GATHERING OF CENTRAL LABOR UNION AND FAMILIES IN COLT PARK, HARTFORD, CONN.

PARTIES.

The Pond House at Elizabeth Park has served the public through wedding breakfasts, dancing and card parties, dinners, musicales, readings and entertainments and has been a busy place. The capacity of the house is supposed to be forty people at a dinner, and yet ninety have been served at a time. So great has been the demand for the Pond House, that we have had to refuse two parties to every one we could accommodate. The house has been engaged by the young and the old, for neighborhood clubs, societies, and clubs, and usually one month in advance.

THE FIRE-PLACE.

For those who enjoy a meal cooked in the woods, and who love the great out-doors, the simple fireplace at Goodwin Park has been a great boon. Corn or marshmallow roasts, broiled steaks, and steamed frankfurts have been popular. The groups of "Camp Fire Girls" and several men's clubs have often spent pleasant hours there, but a more pretentious fireplace would give greater service.

SLEEPING.

During the hot summer months, many of the East Side residents preferring the cool breezes from the Connecticut River to their hot tenements, slept in the grove at Riverside Park. More than three thousand such comfortable sleepers were counted there, within a period of two months.

HOCKEY.

Two rinks were in operation, and the one at Elizabeth Park although small, was the favorite. However, the Colt Park Rink was hardly given a test, being completed just before the great snow-

storm, which put an end to hockey playing. Six thousand was the total attendance.

CURLING.

Although the curlers are a small group, probably because of the expensive outfit, yet they play one of our most desirable games.

CHRISTMAS TREE.

Hartford's Municipal Christmas Tree was lighted each afternoon and evening from Christmas eve until the coming of the new year. It seems that its influence with the daily message of songs, and standing at City Hall Square where the multitude passed and could not help but see, was greater than if placed in the finest park area, farther removed from the people and from the noise and rush of business. No estimate could be made of the number of people who passed in full view of the tree, but over thirty-two thousand came close enough to hear and join in the songs, and hear the old bell of City Hall ring out the "old year" and to see the lights of 1914 flash forth. Then they went home, but they didn't forget the "TREE."

ORGANIZING and DEVELOPING A MODERN CEMETERY

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City, Mo.

III. Selecting the Site.

* Too often the location of a cemetery is the result of one or more circumstances which should have little or no relation to the subject. Some person may have a tract of land to sell, and through business, personal or political influence this land will be chosen. In some cases a cemetery may be actually promoted to make use of a certain piece of ground. The result is usually unsatisfactory. The writers recall a cemetery of several hundred acres in one of our large cities established in this way. It is a picturesque site and a creditable piece of landscape development, but as a cemetery it can never be a success, owing to the rocky ground, direction of slopes and other topographical and geological conditions.

The first consideration should be the location in relation to the city; the centers of greatest population of the classes to be served, and more especially the growth of population. Suburban districts or towns which might contribute to the cemetery are often of importance.

In general, the growth of a city is in the form of a star, with long arms of development reaching out along the more important radial lines which connect with the surrounding towns or suburbs. As a cemetery must have direct and convenient connection with the city by roads which are always in good repair, it is apparent that the logical location is near one of these main highways, though it is not necessary to take the more valuable land directly adjoining the main road. Another consideration in regard to main highways is the interference which such a large tract of ground will cause in the street system of the city. A location should be chosen which will cause as little interference as possible with main lines of communication, either present or future. Such care will tend to minimize the hostile attitude which is often assumed by surrounding property owners, both because of the above reasons and because of more sentimental reasons. A well arranged and maintained cemetery

should not be an objection in any neighborhood.

Transportation by street car, rapid transit or suburban trolley to the grounds or within a short distance should be assured. In the larger cities suburban steam trains may answer as well, but some reliable, rapid and inexpensive means for visitors to reach the cemetery is necessary; also funeral trains or cars are not uncommon, and will no doubt come into greater use. Many cemeteries have considered this problem of transportation so important that they have subsidized street car lines.

This brings us to the problem of distance from the city, one of the most difficult, as it depends upon several indeterminate factors, one of which is the probable expansion. The growth of population affects this only indirectly, as the direction of growth and solidity of development (that is, the amount of intervening land left wholly undeveloped or vacant) will make much difference. It is certain that the cemetery should be as near as possible for perma-

nency. If too near, the city will grow up about it too quickly, and the time will come when it will be a question of removing the dead to make room for the living. On the other hand every unnecessary mile means wasted time, energy and money, which in the aggregate amounts to considerable in a year. Many cities prohibit burials within the city limits, others only within certain districts. Five miles from the center of a city has been suggested as the proper distance. This would be too close in most of our larger cities and too far in the smaller towns. In a city that is growing lengthwise, say, along a water front, a cemetery could be safely located at the side of the city, much closer to the center of the city than at the ends.

Next, the ground itself should have most careful attention. In the first place, a gently rolling tract lends itself to the most artistic development in the naturalistic style. In some localities such a site would not be available, and careful designing to give interest to a more flat and uninteresting one would be necessary. Where flat landscape is typical of any district it is the problem of the landscape architect to make a design which emphasizes the particular beauties of the type. Gentle hills and valleys may be developed artificially in semblance of the forms of nature, but unless handled with much care and knowledge of ground forms the deception will be apparent and not worth the expense. A more hilly location, not too precipitous, is not objectionable (if free from rock), and, in fact, may be made quite picturesque. It should be expected that cost of roads and grading on such a site may be more than on a level one; also that the cost of maintenance on account of washing may be greater, but a saving in the first cost of the ground or advantage of strategic location may compensate for the disadvantages. In all cases of sloping ground, preference should be given to the sunny slopes, the south, east and west, where the ground will be more free from snow and frost than on the north slopes. High land should be selected if possible. The American people seem to have a well-defined dislike to low ground, either for the living or the dead. At least the greater portion of the ground should be higher than the logical entrance point.

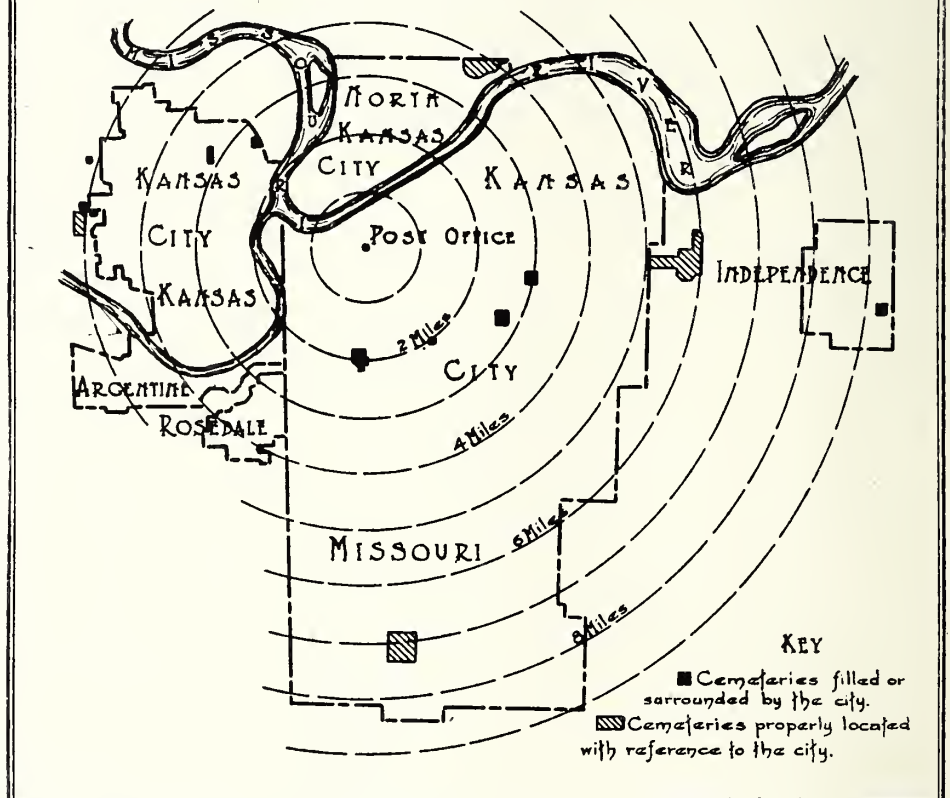
Opportunities for lakes and streams should never be overlooked, as nothing adds so much interest to the landscape beauty as water. The water supply for these should be certain, and the soil suitable for retaining water in the proposed lakes.

The soil should be suitable for the growth of trees, shrubs and other plants, as well as a lawn, a rich loam being ideal. A light sandy soil is preferable to heavy clay or gravel. The subsoil is also of much importance because of ease in excavating. It should be sufficiently solid to

prevent caving, yet not so hard as to be expensive to handle or so impervious as to hold water, good drainage being very desirable, although lack of it is a fault that can be remedied without prohibitive cost. Rock is very undesirable, first, because the expense of excavating a grave is often more than the greatest possible charge for the service; second, because blasting is dangerous to the workers and visitors in a cemetery, is apt to damage

to roads and grading apt to be caused by the native growth. However, it requires years and money to plant and grow trees, and for this reason a reasonable amount of native timber is desirable. Even a few groups or single specimens of well developed trees will do much to give a setting and finish to the newer planting and a background to various views. Certain kinds of trees, such as some oaks and more especially walnuts, are not desirable permanent

STUDY OF CEMETERY LOCATIONS IN AND ABOUT KANSAS CITY



lawns and monuments, and is inconsistent with the peace and quiet of the surroundings. Large boulders may also cause much difficulty. In some localities it has been necessary to trench the ground to a depth of five or six feet and remove all the large boulders. Swan Point Cemetery at Providence, R. I., is a conspicuous example of this. A border wall constructed of these boulders would be most picturesque, but the expense of the work is worthy of careful consideration.

Valuable topographical and geological information can often be received from the state geological bureaus. In some cases maps are made of the vicinity of the larger cities, showing not only the street arrangement and topography, but the soil and rock outcrops in quite a complete and detailed way.

Last, but of considerable importance, is the question of native vegetation upon the land. A more perfect landscape result in the end could no doubt be obtained with land entirely free from the interference

trees because the dripping from the leaves will stain the monuments. Nevertheless, these may give a good temporary effect and can be removed as the other trees grow; or perhaps the happy day will come when the monuments can be eliminated, at least be secondary to choice trees. The quiet repose, mystery and solemnity of more heavily wooded land or groves of larger trees seem to be especially suitable for the resting place of the dead. While presenting more difficulties in the way of road location and grading, such land could not be considered objectionable. Some intelligent thinning of the trees might be necessary in order to get enough light and air beneath for the growth of grass and shrubbery.

All these considerations may seem rather complex, and no one piece of land is usually ideal in all respects. However, here is where the personal element of judgment appears, in weighing the comparative merits, and the advice of one with experience and familiarity in cemetery location and planning is invaluable.

SELLING CEMETERY LOTS ON CREDIT—III

*Symposium of Methods and Forms Used by
Many Cemeteries in Lot Sales and Collections.*

We have never had a lot owner discontinue payment on lot purchased on credit. The following contract explains our handling of credit sales:

SLEEPY HOLLOW CEMETERY.

Tarrytown, N. Y.

Having selected a Burial Lot, No. in Section, No. of Sleepy Hollow Cemetery, this certifies, that, have this day paid to said Cemetery Association, Dollars, and, hereby agree to make the following payments to it for balance, with interest until date of payment, viz:

It is expressly agreed, that in case of any default in the above mentioned payments, this contract shall be null and void, and any payment made on the above mentioned lot shall be forfeited to the Cemetery. It is further conditioned that any interment made in the said lot, in the meantime shall be considered as temporary, and subject to removal unless the said lot shall be paid for as thus promised. Upon the prompt and punctual completion of the payments as above specified and provided for, the Trustees of the Sleepy Hollow Cemetery are to convey said lot of about, superficial square feet, by deed to, in the form now in general use by them subject to the restrictions, and the regulations therein contained.

No monuments or headstones are to be erected on said lot until after the fulfillment of this contract.

Signed Duplicate.

W. T. SACKETT,

Sup't., Sleepy Hollow Cemetery.

Tarrytown, N. Y.

When a lot owner discontinues payment we remove any body or bodies from lot to single interments, and resell lot, retaining the amount already paid on lot to cover cost of such removals, as per agreement of purchaser printed on contract. We have always been successful in this method.

Following is a copy of contract and notes issued to lot buyers who do not desire to pay cash:

SPRING VALE CEMETERY.

La Fayette, Ind., Oct. 31, 1914.

Received of John Doe, twenty-five dollars in cash, and two notes of \$25.00 each, payable in six and twelve months from this date, which, when paid, will be in full for Lot No. 1, Section 1 in Spring Vale Cemetery, and entitle him to a deed therefor.

The corporation hereby reserves the right, in the event of the non-payment of any one of the notes aforesaid, at its maturity, to declare the contract of sale, together with all previous payments, forfeited, and forthwith to re-enter and take possession of said lot, and to remove therefrom, to the grounds reserved for single interments, any body or bodies which may have been interred therein; or, at the option and consent of the Corporation, the re-interment may be made upon any lot bearing price not exceeding, with expense of removal, the amount paid by the delinquent party.

La Fayette, Ind., Oct. 31, 1914.

Six months after date, we promise to pay to the Treasurer of Spring Vale Cemetery the sum of twenty-five dollars for value received, at the First National Bank of LaFayette, Indiana, with interest at 8 per cent. from date, without relief from Valuation or Appraisement Law.

La Fayette, Ind., Oct. 31, 1914.

Twelve Months after date, we promise to pay to the Treasurer of Spring Vale Cemetery the

sum of twenty-five dollars for value received, at the First National Bank of LaFayette, Indiana, with interest at 8 per cent. from date, without relief from Valuation or Appraisement Laws.

One-third of the purchase price is in all cases paid in cash, and the balance, one-third in six months and one-third in twelve months, with interest at 8 per cent from date. In cases of unknown purchasers we require an indorser for the notes. The deed, of course, is not issued until lot is fully paid for. About 50 per cent of our sales are made on this plan and we have very little trouble with collections. We also refuse to open a grave or do any other work on lot against which there are any past due notes. R. W. SEVERING,

Sup't., Spring Vale Cemetery.

Lafayette, Ind.

* * *

We have been selling lots on the installment plan for many years and believe that it is the proper thing to do, as there are many people who can and will purchase lots in this way who are not provident enough to ever save up the purchase price for such purchase.

Occasionally there is a lot buyer who fails to complete the payments. In such cases we first use every effort to induce him to continue the payments. If we find that the default occurs through misfortune of any kind, and that the person's intentions are good, we extend the time of payment from time to time and give him every facility to still secure the lot. In the few cases in which it becomes evident that the purchaser will never be able to complete the payments, or does not intend to complete them, the lot is vacated and the body or bodies buried on it are removed, either to single graves or to a smaller lot if the amount paid in be sufficient to cover the cost of the removal and the price of the smaller lot. We aim to give the buyer the full benefit of all money paid in, of course.

The writer doubts very much whether any cemetery corporation, under any circumstances whatever, would have the right to remove a body once interred, with the knowledge and consent of the corporation, unless a definite and specific written contract was entered into at the time of sale authorizing the cemetery association to take such action in case of default. I am quite sure that if a removal were made without a carefully executed valid contract of this kind the cemetery association would be liable in exemplary damages.

Our contracts are made in duplicate by carbon and provide an absolute forfeiture in case of default, but contain a sixty-day clause preventing any cancellation of the contract until the default is continued for

sixty days. We have never enforced the absolute forfeiture clause and have never enforced the sixty-day clause, rarely vacating a lot until a year's default has occurred, unless the purchaser flatly and definitely refuses to continue the payments. I think the law of any state would allow the removal of bodies under the conditions above stated, but the contract must be very carefully drawn, as the courts in general construe all possible points in favor of the buyer in such cases.

It will be noted in the copy of contract enclosed, also, that we have inserted an acknowledgment on the part of the buyer that he has read the rules. This I regard as a very important point, as cases have been decided adversely to cemetery corporations in the courts on the plea of the buyer that he was not made acquainted with the rules. In fact, I have knowledge of one case in which the question was asked of the lot salesman, "Did you read the rules and regulations to this man when you sold him the lot?" The salesman's answer was that he could not remember. This testimony was admitted as proper and seemed to have quite a strong bearing in the decision of the case in favor of the lot owner.

Following is a copy of our sale contract:

THE MOUNT GREENWOOD CEMETERY ASSOCIATION.

Morgan Park, Chicago, Ill., 191..

The Mount Greenwood Cemetery Association hereby agrees to sell to, the following part, viz: of Burial Lot No. in Section No. in the First Division of Mount Greenwood Cemetery, for the purposes of sepulture alone, and to issue to, its regular form of Warranty Deed when the conditions of this agreement shall have been fulfilled.

Price of Lot, \$.....
Proportion of Corner Stones, Total to be paid, \$..... Payable Cash, \$.....
Balance, \$..... payable.

..... until paid in full, with interest at four (4) per cent per annum, all interest being due and payable with each payment on the principal.

After all payments as herein specified are completed, the Association hereby agrees to set apart as a trust fund for the Perpetual Care of said lot the sum of \$..... and to issue its regular form of Trust Fund Agreement to said purchaser, in accordance with its published terms and conditions.

This Agreement is conditioned on the faithful performance by said of, agreement to purchase said lot as set forth below.

THE MOUNT GREENWOOD CEMETERY ASSOCIATION.

By 191..

Morgan Park, Chicago, Ill., 191..

I hereby Agree to purchase from The Mount Greenwood Cemetery Association, the above described lot, for the purposes and on the terms therein stated.

I have obtained from The Mount Greenwood Cemetery Association a copy of its Rules and Regulations, and having read the same, hereby agree to be governed by said Rules and Regulations, to-

gether with all reasonable amendments and additions thereto which may be hereafter made.

I hereby agree, that in case I default any payment, or any portion of any payment, as above set forth, and shall continue in such default for the period of sixty days, the said Association may at its option, declare any agreement of sale entered into by it, together with any and all payments made by me in pursuance of such agreement, forfeited, and said Association may enter upon said lot and remove any bodies interred thereon, to other graves in said Cemetery, at my expense.

I further agree, that any such forfeiture and removal shall not be construed as a waiver by said Association, of any claim against me, except for the amount remaining unpaid on the purchase price of said lot.

Name
P. O. Address
S. B. Fol. Cards. Plat.
P. B. C. B. Checked.
One monument, to cover not over square feet, will be permitted on this Lot.
No monument will be permitted on this lot.

MT. GREENWOOD CEMETERY ASSN.

W. N. Rudd, President.

Morgan Park, Chicago, Ill.

* * *

Following is a copy of our contract for lot sales on credit:

This Agreement, made the day of A. D. 19...., between the Paxtang Cemetery Association, of Harrisburg, Pennsylvania, and.....

Witnesseth: That the said.....hereby agrees to purchase the right of interment or sepulture in a certain burial lot vested in said Corporation, subject to the regulations, conditions and restrictions for the government of lot-holders and the burial of the dead, said lot being marked in the map or plan of said Cemetery with the number in Lawn, on the register map of said lawn on file in the office of said Corporation, for the price or sum of..... Dollars.

It is Agreed by and between the said parties that the sum of..... Dollars has been paid on account of said lot, and the said purchaser agrees to pay the balance in monthly instalments of..... Dollars each, on the days of each month until the sum is fully paid; and also agrees to the following conditions: If any instalment shall become in arrears, interest at the rate of six per cent per annum shall be paid from the time the said instalment shall be due and payable; said interest to be paid at the time that final settlement is made. No interments shall be made on said lot without the consent of the Paxtang Cemetery Association.

In case of the failure to pay any instalment as above mentioned within six months from the time the same shall become due and payable, the lot then shall revert to the said Paxtang Cemetery Association, and the payments made on account of said purchase shall become the property of the said Paxtang Cemetery Association without any claim whatever on behalf of the purchaser. Should the said lot revert to the Paxtang Cemetery Association, the said Association shall have the right to remove any bodies buried in said lot to such portion of the said Cemetery that the said Association shall designate. Any improvements or grave marks may also be removed by the said Association. The purchaser also agrees to pay the sum of One Dollar, cost of deed, to be executed and delivered when all instalments are paid.

Witness the hands and seals of said parties the day and year aforesaid.

For the Paxtang Cemetery Association.

PAXTANG CEMETERY ASSN.

Harrisburg, Pa.

Our lots are sold on payments of one-third down at time of purchase, one-third in six months and one-third at end of year. The purchaser of a lot must sign up a copy of the enclosed contract for any deferred payment after first one-third payment has been made. Our lot holders generally meet their payments under this sys-

tem. Should they lapse at any time, we send them a notice and inform them if they do not meet their payments within a given time we will remove body or bodies from their lot, as per agreement of signed contract, which reads as follows:

OFFICE OF FERNCLIFF CEMETERY.

Springfield, Ohio,19...

Received of Dollars, the sum of Dollars, being a part payment on..... Lot No..... Section in Ferncliff Cemetery, the same having been contracted to be sold to said for the sum of..... Dollars, for burial purposes only, under the rules and regulations of said Association, the balance of said purchase money to be paid as follows:..... and in the event said..... shall fail to pay promptly any installment of the balance of said purchase money as herein provided, all..... interest in the lot hereby contracted to be sold, shall forthwith cease and determine and said association shall, at any time while such default continues, have the right to remove the body or bodies buried on said lot to one or more of the single burial lots in said Cemetery at any time after the expiration of thirty (30) days from the mailing to said purchaser or to one of..... next of kin, of a written notice of its intention so to do, addressed to at Springfield, Ohio, with

postage prepaid; and if the next of kin be unknown to said Association, such notice may be given by one publication in a newspaper of general circulation in the City of Springfield, Ohio, addressed to the unknown heirs of such purchaser; and the amounts paid under this contract shall, in that event, be retained by said Association as compensation for said single burial lot or lots and the removal of said body or bodies; and the lot hereby contracted to be sold shall belong to said Association the same as though this contract had not been made.

Executed in duplicate original, this..... day of19.....

THE SPRINGFIELD CEMETERY ASSOCIATION.

By

This has the desired effect, and rather than have bodies removed or be advertised before the public, they will meet their obligation. Since we have never had occasion to remove a body from an unpaid for lot, we have not had a chance to try the matter out in court. But should we have to go to law over a case of this kind, I think the laws of Ohio would give us judgment, as our contract could not be held otherwise than bona fide. Jas. F. Dick,

Supt., Ferncliff Cemetery.

Springfield, O.

ASKED AND ANSWERED.

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department

Undertakers' Journals.

We shall be obliged to you if you will kindly give us the names of a number of undertakers' trade journals, as well as the name and location of the publishers.—
— Cen. Co., Cal.

The leading journals representing the undertakers' trade are: *Embalmers' Monthly*, Chicago; *The Sunnyside*, New York City; *The Western Undertaker*, Chicago; *The Casket*, New York.

Removing Dirt from Grave.

How do you remove the surplus dirt from the open grave, and when?—A. C., Ill.

In almost all parts of the cemetery we use a box as a container for dirt. These boxes are made so as to be easily knocked down and can be transported from one grave to another. The surplus of dirt we remove to the side of nearest driveway in wheelbarrows, where it is taken away in carts or dump wagons. Wherever possible the surplus is taken away before the box is filled; the amount put in the box is as near as possible to estimate, just enough to refill the grave. J. C. CLINE,

Supt., Woodland Cemetery.

Dayton, O.

Our system of removal of the surplus dirt from the open grave is followed on all single as well as lot graves, but the time of the removal of this dirt is governed by the kind of work to be ordered—that is, as to whether it is to be a regular interment or whether the grave is to be decorated at the time of the interment.

We find that the simplest and most economical system is to wheel the dirt by means of a wheelbarrow from the open grave to a low wagon having wheels of about 24 inches in diameter, which conveyance carries it to dumping place provided.

In case the grave is on a section level with the drive it does not make a very steep incline from the surface of the lawn to the top of the wagon, so that a man can conveniently wheel a full wheelbarrow of dirt up onto the wagon. In case the grave is located on a hilly section, a plank can be laid from the slope level with the top of the wagon, and the wheeling is a little easier than from the level of the drive.

The time of the removal, as stated above, depends on the kind of work ordered—that is, in the case of an ordinary interment the earth is all left at the open grave and immediately after the interment has taken place the surplus dirt is removed. In the case of a decorated grave all the dirt is removed before the interment and immediately after the services enough dirt to fill the grave is brought back and wheeled in. In ordinary weather all this work can be done without the laying of wheeling plank, but in the case of wet weather plank is done from the grave to the wagon, so as not to mark the lawn.

In the case of single graves all the surplus dirt is wheeled away as soon as grave has been filled, or shortly thereafter. This is done in all seasons except in the early spring when the frost is coming out of the ground and there is considerable settlement in some of the tiers. In that case quite a

large quantity of the surplus dirt is utilized in filling these in. A. R. GROSS,
Supt., Mt. Greenwood Cemetery.
Morgan Park, Ill.

We have "knock-down boxes" which we set up at each grave. All earth excavated is placed in these boxes until after the interment. Our people retire after the committal services and the grave diggers fill in the earth in layers of about one foot at a time, packing each layer firmly until grave is refilled. All surplus earth is then carted away and used for filling low ground, after which the box is taken apart and stored for future use if not required for immediate use in another location. After the box is removed there is no fresh soil on the grass to mar the appearance of the sod. We have been using this plan for the past fourteen years and find it gives the best results of any plan tried so far. We also use pawlins in certain places where it is not convenient to use the box. Our boxes are calculated to hold about the required amount of earth to refill an ordinary grave.

In order that a lot may be cleaned up quickly after an interment our men remove a portion of the earth as fast as excavated, leaving about the required amount of earth to refill the grave. In this manner we often have all signs of an interment removed within a half to three-quarters of an hour after the family leave, as the grave is sodded at once.

Any person wanting a description of the

box used can have same by applying to the writer.

WM. HALBROOKS,
Supt., Oak Hill Cemetery.
Evansville, Ind.

Curb and Gutter for Drives.

What type of gutter is best adapted to cemetery drives, or are gutters generally used?—F. R., Ia.

We do not approve of gutters or curbing except on inclines, where they are necessary on account of washing, where we use combined curb and gutter.

I do not believe it adds to the beauty of a cemetery and therefore make the curb only four inches on top surface, and if I used gutter on level roads I would prefer no curb, so as to make it look as though the gutter were part of the pavement, but on such roads we do not have them.

WM. F. HAASE,
President, Forest Home Cemetery.
Forest Park, Ill.

Reservations for Ornamental Planting.

Do you advise making reservations in the interior of sections for ornamental planting?—B. F., O.

I think this inquiry shows a great deal of interest. We who have old cemeteries have not been able to acquire any reservations because we have to take the grounds as they are and plant wherever the opportunity offers. I, for my part, would by all means, in laying out new sections today, make reservations in the rear of all lots for ornamental work, as it adds materially to the attractiveness of a cemetery to have as much ornamental planting as possible.

For those who have the severe winters which we have, I would recommend that more evergreens be planted. These give the contrast in winter which is so pleasing and also afford a shelter for the birds, as we cannot afford to lose any more of those little fellows than we can help, because they add so much to any grounds. I only wish that I had the good old Harmony Grove Cemetery to lay out again, and I think that we could make good changes in the landscape, though we do pride ourselves on our beautiful oak and maple trees, deep ravines and high cliffs, which make a very rolling and attractive cemetery.

GEO. W. CREESY,
Supt., Harmony Grove Cemetery.
Salem, Mass.

I should strongly advise that this be done. If the planting areas are limited to the sides of the sections or along the driveways, the variety of effect will also be very much limited. By placing planting areas in the sections they can be of fair size and irregular in outline and will do what is extremely necessary in most of our cemeteries, that is, furnish a background for the monuments. The monuments should, as far as necessary, be placed near this interior planting. With this arrangement the views across our cemeteries will have variety; interesting grouping of foliage and all monuments can be seen to their advantage, and the whole area will not have the effect of the yard of a monument company.

PAUL L. MUELLER,
Landscape Architect.
Minneapolis, Minn.

REMODELING A NEW ENGLAND CEMETERY

On a first visit to Forest Hills Cemetery, in the fall of 1914, the genial superintendent, Henry S. Adams, clearly proved himself a well-balanced combination of the esthete and the practical man, as, indeed, is essential for a man in his position.

That he proved himself much more than this to the "head of the family" and the writer is, though perhaps a purely personal matter, none the less an agreeable fact to set down in this little chronicle of a pleasant and instructive afternoon.

It is due Mr. Adams to say that he is manfully grappling with what looked to the layman like a next to impossible proposition, which was, however, sufficiently advanced to show beyond question its feasibility in his capable hands, rather, to speak accurately, head.

As the "head of the family" aptly remarked, thus unthinkingly supplying acceptable "material," the title of this cemetery is no misnomer, since it really contains both forest and hills.

While these unquestionably are basic landscape assets, the latter are sometimes a handicap in the development of a cemetery. In this case an additional and literally weighty difficulty is found in the rocks, from a few ounces to a ton or more in weight, scattered so indiscriminately throughout the soil as to necessitate trenching every foot of the ground to be used for interments.

In the beginning (that sounds Biblical, but no plagiarism intended) sections in this



CONCRETE COLD FRAMES TO REPLACE WOODEN ONES. BUILT OF REINFORCED CONCRETE PLANKS MADE IN-DOORS BY CEMETERY EMPLOYEES DURING THE WINTER



PART OF ROAD BUILDING EQUIPMENT OF FOREST HILLS.



BEFORE. CANTERBURY ST. GATE TO FOREST HILLS, AFTER: CANTERBURY ST. GATE, FOREST HILLS, FALL OF 1912.

cemeteries followed the natural contour of the ground, regardless of the abruptness of the slopes, and as the lots were used, each in its turn was hoisted up, so to speak, on its lower side to form a level or table land the size of individual plots. Result: Irregular flights of stairs in which an occasional step attained the dignity of a terrace in height, though never in length, all climbing at random over the hills and chopping up and ruining the charm of graceful contour, which is so great, though often unrecognized, a factor in the satisfactory effect of landscape.

A hillside comfortably accessible to nothing less agile than a chamois seems especially inappropriate in a cemetery. This

impression evidently "got on the nerves" of Mr. Adams during his novitiate, leading to speedy action on his accession to power. He is certainly leaving an indelible mark on the grounds and to its everlasting betterment.

The gigantic labor he conceived and is carrying out is nothing less than changing the contour of a large part of the 250 acres, whether in use or not, the more difficult part, of course, being in the old, occupied sections. Several large ones, formerly a series of small or medium sized lots, each at a different level, and reaching from the bottom to the top of genuine hills, have been raised here and lowered there to attain sweeping, graceful lines, delightful to

the eye and possible to be cared for.

This great work has involved the removal of some hedges, innumerable copings and other objectionable stonework, resulting, as a whole, in stretches in the heart of the older part of the grounds that would do credit to a modern burial place conducted from the outset on the lawn or park plan.

Handsome new gates at the several entrances and the new iron fencing, of which 7,000 lineal feet have been built since 1910, are further evidences of advance at Forest Hills, and the writer hopes to later have the pleasure of seeing and describing other progressive features already planned and even begun by the efficient superintendent.

FRANCES COPLEY SEAVEY.

PROBLEMS OF OUR NATIONAL PARKS

Address of Mark H. Daniels, Superintendent of National Parks and Landscape Engineer, before American Civic Association.

It has been said that the prime purpose of the language was to disguise thought. If this were true, I should suffer an enforced silence, for there is nothing that I more devoutly wish at this moment than that I might tell you all my thoughts exactly as they are on the subject of the national parks. I can only hope, however, to tell you a few of the things that I have in my mind and in my heart. I shall manfully refrain from any descriptions of the beauties and the glories of our national parks, partly because I would save you from listening to repetitions of things you have heard or read before, and partly because I have no inclination to steal thunder from Mr. Harkin, the commissioner from Canada, who follows me.

If the problems of the national parks were considered along broad, general lines it would be found that most of the difficulties incident to the securing of funds for their proper development and administration are due principally to the popular misconception of the value of idealism as a factor in our economic development. The capitalist has been prone to call the idealist an impracticable crank, and the idealists, or those engaged along the lines of more idealistic endeavor, have called the

capitalists, or accused them, rather, of being utterly devoid of any sense of the ideal. This condition is most lamentable because it is generally the capitalist upon whom application must be made for the necessary funds to execute plans of the idealist. If one is possessed of a deep-rooted conviction of the theorem of Euclid, to the effect that two things equal to a third are equal to each other, it is difficult to see how that which is fundamentally idealistic can fail to be, eventually, economic, for if it is fundamentally idealistic it must be good and right; if it is economic, it must be good and right; therefore, what is idealistic must eventually prove to be economic. (Applause.) For if it were not, it would then be wrong; but the original definition of idealism is that it is good and right. The apparent contradictions to this principle are generally due to erroneous assumptions as to what is idealistic and what is economic. The day of the proof of this contention is at hand, I believe, for it was not so many years ago when anyone advancing the contention that the expenditure of money for furthering the conditions of factory workers in the way of artistic treatment of their homes and surroundings

would have been termed a crank, and yet today many of our leading manufacturers and merchants will testify to the soundness of such a principle.

Municipalities are beginning their planning; they are adorning and decorating their cities, with the result that in many of them their per capita wealth is increasing. Subdivisions or residential parks are being laid out with an eye to beauty, with the result that the land values in them are steadily increasing. I might give you innumerable instances which would serve as proofs of the fact that idealism has a tremendous commercial value.

I am convinced, for my own part, that idealism and economics are inalienably related, and if anyone in the consideration of the drafting of physical plans for such areas as our national parks is influenced by the consideration of the economic phase of their development, he is not lowering the flaw of art to commercialism; he is rather adding a new dignity to it. Not the least in the list of benefits, economically derived from idealistic attempts or idealistic work, is the effect of civic art and landscape scenery upon the moral and the mental character of those who are so fortunate or so sensible as to view it.

I believe that the mental horizon and the visual horizon bear very close relation to each other. The man who sees broadly, and conversely, I think it is as difficult to plant the seed of a broad intelligence in the mind of the child being reared in the streets of a great city as it is to grow a sunflower in a swamp. I know of nothing that has so potent an effect or is so efficacious in the development of a broad mind and a dignity of character as the repeated contemplation of an inspiring view. If anyone doubts this, let him stand on the brink of the Grand Canyon at dawn and view the myriad tints and changing views and those mile-high walls as the rays of the rising sun creep down; or let him stand on the Cloud's Rest and view 6,000 feet below him a peaceful village nestling at the foot of a half-mile cliff, over which pours a snow-white river; or let him wander beneath the giant branches of the Sequoias, 8,000 years of age, the oldest and most tenacious of life of all living things, where at noontime you may look up and see the stars, and a serenity will creep over him that borders close onto that peace which passeth understanding.

I once inquired of an old habitue of the Giant Forest what particular benefit he thought he derived from his repeated visits to the park, and he said: "Well, you see, it is like this. For quite a spell after I came here to this park, somehow or other I felt kind of disinclined to cuss when I stubbed my toe." And, as a matter of fact, I have seen people who visited the giant forests enter them in a spirit of hilarity and boisterousness, and I have seen them leave speaking in whispers.

While I have promised not to eulogize, I might give you a brief outline of what is composed within our twelve national parks. While they are twelve in number, there are applications for ten times that many to be admitted to that category.

Arkansas Hot Springs and the Platte National Park are perhaps two of the greatest health resorts in the world. Many physicians have claimed that more legitimate and effective cures have been made at Arkansas Hot Springs than at any other springs on earth. At Mesa Verde National Park in Colorado we have the cliff dwellings. The park is replete with mystery and peaceful grandeur. If anyone wishes to experience the sensation which undoubtedly prompted Omar Khayyam to say that we know not whence we come nor how nor why we go or where, let him view those cliff dwellings. There remain the almost perfect structures of the cliff dwellers. They came to the country; they built their dwellings, and they passed away. Of record they left nothing. Egypt has her Sphinx, but I am not certain that I do not prefer the cliff dwellings. The next parks I speak of in the plural, and there are three in California, being the most western

of our parks. They are the Sequoia National Park, the General Grant and the Yosemite. Sequoia and General Grant parks are considered and admitted as one park. The General Grant Park possesses already 2,500 acres, as originally created, for the purpose of preserving a very small grove of very great *sequoia gigantei*. Sequoia Park, however, is quite considerable in size. Within the park are one and one-quarter million *sequoia gigantei*. It has the largest trees in the world and the oldest living thing in the world, and the deepest canyon in the world, and on its border is the highest point in the United States. It is a park which has received little or no consideration. What few people eventually stray within its borders are chance visitors, and yet I believe that, properly developed, it would be one of the most important parks in that system. The entire country is the most rugged I know of in the mountains of this continent, and I have walked over nearly every foot of the Rocky Mountains and the Sierra Nevadas.

Yosemite, the incomparable, needs no description from me. In fact, I think it defies description. However, I might correct a popular misapprehension. Nearly all of the tourists who visit that park go only to the valley. The Yosemite Valley comprises but a very, very small portion of the Yosemite National Park. There are nearly 1,000,000 acres in the park and the valley is only an area of one and one-half by six miles. It has in its northwestern portion two great canyons that are nearly as deep and as steep as the Yosemite. It has five enormous waterfalls, which, taken together, any one of them considered in its entirety—that is, from the top of the falls to the bottom, is at least 2,000 feet in height. It has also a grove of giant sequoias, and I think it has more in variety and in diversity in mountainous scenery than any other area on the continent.

North of the Yosemite is Crater Lake National Park, in Oregon, which was set aside for the preservation of the lake which now occupies the space once occupied by the crater. It is about six miles in diameter and the bluest water in the world. The blue water of Crater Lake pales the blue of the Bay of Naples to insignificance. This lake has been described by many tourists and writers as being the most exquisite bit of scenery to be found anywhere,

North of that we have Mt. Rainier National Park. This park has been accused of being nothing but one mountain, but it is my opinion that that one mountain thoroughly justifies any park equal in area to that park. As one stands in the valley looking up to this great mountain, it is quite easy to appreciate the religious reverence with which the Japanese hold Fujiyama. The mountain is covered with a system of glaciers. Each year they add in number some two or three, so I cannot

guarantee that there are ninety-two; however, that is the latest report. The glaciers on the top of Mt. Rainier are considerably more impressive and more interesting than any of the glaciers I have seen outside of northern Alaska.

Glacier National Park you have just taken a trip to. Yellowstone you have probably heard and read so much about that I need add nothing. I believe that its salient features are its natural phenomena. I do not, however, think that Yellowstone can compete with many of the other parks in landscape beauty.

There are two other small parks, Wind Cave and Sullys Hill. Wind Cave is an area set aside for the preservation of a cave several miles in extent, which is free and open to passage and in which there are many curiosities, such as stalactites and stalagmites. Sullys Hill is a small area in North Dakota which is only of interest for its charm of landscape.

The problem which confronts us is a systematic and organized effort to administer these national parks. Congress has exhibited a more than usual reluctance to appropriate any adequate sums of money with which to develop the parks. Congress, of course, has been subjected to a great deal of very severe criticism for that reason, and yet, after going carefully through all the records, I can find no reason why they should have appropriated money for organized effort, because I have been unable to find in the records any plan or any system which has ever been presented to Congress in a concrete form on which they could go to Congress and say: "We will build this link this year, and that next year; we will do this, and we will do that if you will give us so much money; and if you give us enough money to do this and to do that we will, in turn, be able to do this and that." There has been nothing definite. There have been hoards of people who have gone up and said we should have a national park organization, with which everybody agrees, and have gone into generalizations as to its benefits. They have not as yet, to my knowledge, presented to Congress or to the committees any systematic plan in detail and worked out in such detail that they can see exactly where they are going to get off.

I had just finished some similar work to this in the west when Secretary Lane asked me to draw some plans for the parks. In attempting to develop a plan for the physical development of the parks I ran up against the necessity for some concrete policy, some concrete plan for its economic development, for any plan that is to be successful for any such area as our national parks must be functional. That plan must not only be a function of the topography of the country, but it must be a function of the economic needs of those parks. Before I had gone far with my physical

planning—by that I mean planning of villages, planning of roadways, planning of trails—I found that I could not determine whether a road should go in one place or another unless I knew whether the department wished to administer those parks upon a revenue producing basis, or whether they wished to administer them as a free-for-all park. There have never been given any specific instructions as to whether the parks should be administered on a revenue producing basis or not. If we are going to plan any work to produce revenue; if we are going to pledge anything for transportation concessions along those roads, those roads must be planned with that point in view, as well as its other requirements. That has resulted in the secretary requesting that I develop a scheme for the economic development of the park system. I have gone so far in this that we now know what we can expect. We can present to Congress now, or to the committee, an outline of just what we will do; just how far we can go; just what revenue we may expect this year, next year and so on for twenty years, providing they will defray our expenses. In discussing the difficulties with the people out West I have received absolutely no sympathy. The usual response to my remarks that we are in need of assistance is the inquiry: "In what department are the national parks?" I tell them they are in the Department of the Interior. They say: "Oh, well, that is all right. Secretary Lane will fix it." And I believe he will.

REFINED FORM OF SARCOPHAGUS MONUMENT.

Probably more artistic sins have been committed against the sarcophagus type of cemetery monument by the endless variations of the die with two ugly rock-faced bases and heavy, ill-proportioned, overhanging cap than any other stock cemetery form. The design shown here illustrates the possibilities of this type of memorial when executed in good proportions and architecturally correct

construction. This is a simple, massive sarcophagus that appeals solely by reason of its just proportions, well-chosen decorations, and the graceful lines. This handsome design is the work of John F. Stanley, of Buffalo, N. Y., who has been successful to a remarkable degree in producing forms of small monuments that combine good art and architecture with simple, practical construction.



ORIGINAL DESIGN BY JOHN F. STANLEY, NEW YORK

HISTORY AND PRACTICE OF CREMATION

Address before the New England Cemetery Association by Edgar King, Superintendent of Springfield Cemetery, Springfield, Mass.

Cremate—what is it? Webster defines it "to burn, to reduce to ashes either directly or in oven or retort." To incinerate is defined "to burn, to reduce to ashes." These definitions by our greatest authority on words, to my mind, do not completely cover the field with respect to what we encounter when cremation is applied to the human body. I respectfully submit that the word "distil" might not inappropriately have been added; all persons familiar with the process will admit that cremation, in the sense in which we are interested, means very largely distillation, 78 per cent of the human body being composed of water.

The first scientific cremation in the United States took place thirty-eight years ago at Washington, Pa. The pioneer cremator was Dr. F. Julius LeMoyne and the subject was the body of Baron De Palm, but the precedent had been set eighty-three years previously by the son of Henry Laurens, South Carolina's revolutionary patriot, who consigned his father's body to a funeral pyre.

The ghastly experience of seeing his infant child come to life just before preparations had been made to bury it in the earth is said to have been responsible for Laurens' demand to be cremated, and to insure his wishes in that respect being complied with, a legacy of \$300,000, which he willed to his son, was conditioned upon the fulfillment of his desires. A failure on the part of the son to cause his remains to be cremated carried the penalty of forfeiture of the legacy.

Europe has nearly one hundred crematoriums. Germany disposed of 8,858 bodies by cremation in 1912 and the practice is being followed by this nation on the battlefields in Belgium of cremating all soldiers who are killed in action. Italy is recognized as being the country to resurrect the ancient practice. I have been unable to obtain figures to substantiate the claim that she leads the world in the percentage of cremation, nevertheless we may be assured the claim is honestly based. In the city of St. Gall, Switzerland, it is reported that during the year 1912, of the 535 per-

sons who died there, 201 were cremated. England is strongly leaning to this method of the disposal of the dead, and the authorities of Westminster Abbey, the repository of Britain's heroes, have recently prohibited the burial of more bodies; they must be cremated. At Pierre les Chaise, Paris, where the city authorities cremate all cases that fall to them for disposition, the number is so great that the retorts, of which there are several, are employed in constant service for the twenty-four hours of the day during the entire year.

Sir Henry Thompson introduced cremation into Great Britain soon after the closing of the American Civil War. Using a reverberating furnace, he reduced a body weighing 144 pounds to 4 pounds of lime dust within 50 minutes, and it was Thompson's success which caused Dr. Le Moyne to install an improved incinerator in a small one-story brick structure on a hill overlooking the city of Washington, Pa., and where he was himself, three years later, cremated in his own institution.

Fifty-eight crematoriums have been erect-

ed in the United States. One of this number, situated at Middletown, Conn., was built many years ago, but has never been operated. There is also one crematory in Canada, located in Montreal, so that fifty-nine crematories, fifty-eight of them in active service, represent the strength of the movement on this continent of this method of disposal of the dead.

The United States Cremation Co., located at Fresh Pond, Long Island, in the state of New York, has incinerated 14,086 cases, beginning with 77 in 1885, its first complete year, and ending with 874 in the year 1913. Oakland, Cal.; Cypress Lawn, San Francisco; Washington, D. C.; Los Angeles, Cal.; Mt. Auburn, Cambridge, Mass., and the Massachusetts Cremation Society, of Boston, all show figures which are extremely interesting regarding the progress made, and while it cannot be stated that the growth is rapid, the figures rendered by these several institutions prove, beyond argument, that the sentiment has become firmly established and refute any suspicion of faddism. The falling away in interest, invariably witnessed in connection with freak ventures, has at no time been evident in the faintest degree.

The total number of cremations in this country for the period of the immediate preceding ten years are as follows:

1903.....	3,532 cases	1909.....	5,690 cases
1904.....	4,093 "	1910.....	6,466 "
1905.....	4,328 "	1911.....	7,524 "
1906.....	4,537 "	1912.....	9,109 "
1907.....	5,436 "	1913.....	10,183 "
1908.....	6,152 "		

These figures, with the exception of the year 1909, indicate a steady, insistent growth and an increase in the number of cases in the past ten years of practically 300 per cent.

In the operation of cremation, the fuel employed for generating heat to provide the required temperature is obtained principally through the agency of fuel oil. In a few instances, it is true, coke, manufactured gas, and in one establishment electricity (which, by the way, has not as yet met with any pronounced success) have been used, but oil has found the most advocates and has been almost universally adopted.

In the conversion of oil to the requirements, two types of burners have been produced: the Bunsen type and the Mechanical, the results being practically identical as far as their efficacy is concerned, the difference being that in operation the Bunsen is exceedingly noisy while the mechanical is silent. I am of the opinion that any lengthy explanation of this difference would not prove interesting; I would rather recommend a visit to a crematory, where the principles can be readily demonstrated; for this reason I do not propose to express my views on the merits of either, but I will endeavor to answer any

questions that may be asked with reference to them.

Viewing cremation from the standpoint of sanitation, it is only fair to assume that its adoption must come when sentiment gives way to sense, and when people who talk about "God's Acre" and its peace will consent to think of the foul processes that are going on beneath the green sod, especially if decomposition is delayed by sealed coffins in unsuitable soils. Men of our persuasion, who witness the condition of bodies after different periods of occupancy of the grave, must be impressed by seeing a body, in an hour's time, resolved into a small quantity of white bone fragments, all disease germs utterly destroyed in the process, and nothing left to pollute the air and water to the detriment of both. Do we not realize how seldom the conditions surrounding burial are satisfactory, viewed from the pressing need of greater progress in sanitary measures? First we need a dry, sandy subsoil, where the process of decomposition will proceed quickly; and, of greater importance, the body should be placed directly in that soil; that is what burial means and implies. Ground burial chemically takes the body to pieces, but this object is often prevented or retarded by enclosing the dead in sealed receptacles.

I mention these facts, which must be patent to all your minds, in order to prove that this side of the question must be thoroughly understood before the general public can be educated to the advantages which would accrue to the living and be transmitted to future generations by the adoption of cremation.

One of the earliest methods of which we have any record is an account of the cremation of Hector, in a description given by Homer. He relates how during nine days wood was collected and brought in carts to the site of the funeral pyre. The pyre was built and the body laid upon it; after burning twenty-four hours the smoldering embers were extinguished with libations of wine, the bones were picked out of the ashes and placed in a metallic urn which was deposited in a hollow grave and covered with well-fitting stones. The extinguishing of the embers by libation of wine may appear a poetical expression and one that for many reasons would not appeal to the present generation.

Authentic testimony has been furnished that the burning of the dead has been practiced for ages in India; it was also the custom of the Druids in Britain. The Parsee, of whom there are perhaps 100,000, worship the elements—fire, water, earth. They will not pollute fire by cremation or permit water or earth to touch the body from which the divine spirit had fled. They, therefore, place their dead on high towers, called the "Towers of Silence," and there the awful vultures congregate and in an hour strip the dead of all save the skeletons, which are quickly reduced to

ashes by the combined effects of chemicals and the torrid tropical sun. This terrible custom must pass away before the century reaches its noontime. Already the progressive Parsees of the younger generation are discussing cremation as practiced in this country and Europe, and it is to be hoped that their study of the present-day principles will bear abundant fruit.

Going back to distant periods, regarding burial and cremation: Anthropologists are well agreed that in prehistoric times our savage ancestors were accustomed to expose the bodies of their dead above ground, to be consumed by natural forces, aided by birds and animals of prey. This, you will notice, is not the Parsee method of the "Towers of Silence." As the living, however, advanced in civilization, and the population of communities became more congested, this custom became revolting and intolerable and the bodies were hidden away under a thin covering of earth. But very early in the development of the race the custom became common to consume the body on the funeral pyre, with the result that it is undoubtedly true that through a longer period of the world's history and among a greater number of peoples cremation in some form has been practiced rather than earth burial.

If I am asked to name objections that have been raised to cremation, I will state that the plea has been advanced that murder in the shape of crime by poisoning or otherwise would be more difficult of discovery if cremation became general. This plea has very little to commend it, when the legal requirements attending cremation are understood.

The laws of this commonwealth are particularly rigid. No body can be cremated until forty-eight hours have elapsed after death. The cause of death must be furnished to the Board of Health by the attending physician. The medical examiner of the district where the death occurred must view the body and issue a signed certificate to the effect that he has made examination into the cause and manner of death and sees no reason why cremation shall not be allowed, before any institution can incinerate the remains. This procedure, it must be admitted, is not entirely followed by some of the states, but it can safely be ventured that mistakes are not very likely to occur, and as cremation advances in popular approval, the probabilities are that a uniform method of legal requirements will become compulsory.

We are also confronted with the prejudice born of sentiment. This sentiment views with dismay the thought of fire dissolving the form of a dear and loved one. Can this sentiment prevail when all the horrors attached to earth burial become a part of the reform education? It does not seem possible, after the intelligence is directed to a proper understanding; rather, the sentiment is so beautifully expressed

by the epitaph inscribed on the tomb of the Marquis of Montrose:

"Scatter my ashes, strew them on the air,
For, Lord, Thou knows't where all those
atoms are,

For far and near dispersed shall this, my
dust,

Rise with the resurrection of the Just."

How, then, shall this reform education be brought about? I know of no better means than by permitting the public to witness the process of cremation, aware, as I am, of the many objections which stand in the way of this being possible. If cremation could be as public as burial, there would be no propaganda required; the practice would commend itself.

The question has been raised whether every cemetery should erect a crematory as a part of its necessary equipment, and if the returns from lot sales are liable to be interfered with by the custom of placing urns containing ashes in niches in the columbarium, if a columbarium is provided. As local conditions enter so largely into this question, I have preferred to leave the matter to be discussed rather than venture an opinion.

Some of you will, no doubt, argue that the cemetery would become obsolete by the adoption of this system. Undertakers, many of them, view with alarm the possibility of a loss of profit in consequence; but, gentlemen, these are, after all, commercial considerations which the future will regulate. We cannot put back the hands of the clock, and progress will insist on its demand being fulfilled, no matter how powerful are the opposing instincts.

Gentlemen, I have not prepared this short paper in the manner some of you might expect: I have not dealt with the numerous propositions connected with its practical operation, the arrangements of a mechanical nature, or the pros and cons regarding combustion, etc., for the simple reason that those are matters which will, of necessity, compel acquaintance in order to become thoroughly familiar with the successful operation of a crematory, but if I have in these few sentences awakened an interest in your minds in the service of a reform, I shall feel more than satisfied.

The sentiment in favor of which reform, I am convinced, can no more be stayed than can the waves of the ocean be prevented from lapping the shore.

NEW ENGLAND CEMETERY ASSOCIATION.

The annual meeting of the New England Cemetery Association was held at Quincy House, Boston, Mass., Monday, February 8. There was a very enjoyable banquet at 1:30 p. m., at which thirty-three members were present. After dinner all adjourned to the meeting room, where some eight other members were found, making the number forty-one, one of the largest meetings of the association yet held for mem-

bers only. The meeting was called to order at 3 o'clock, President Henry S. Adams in the chair. Records of the last meeting were read and approved and reports of officers received.

Secretary H. A. Derry presented his report for the year 1914, which was accepted. The treasurer reported a balance of \$100.

The Membership Committee reported that they had attended to their duty in making a campaign for more members.

Next in order was the election of officers, which resulted as follows:

President—William Lord, superintendent of cemeteries, Lawrence, Mass.

Vice-President—John F. Peterson, assistant superintendent, Mt. Auburn Cemetery, Cambridge, Mass.

Secretary-Treasurer—Horace A. Derry, superintendent, Glenwood Cemetery, Everett, Mass.

There being no invitation for the June outing, it was voted to leave the matter in the hands of the officers to arrange a place.

J. W. Chapman, of the Bussey Institute of Harvard University, gave a talk with stereopticon views on leopard moths, which was very interesting and instructive. A rising vote of thanks was extended to Mr. Chapman.

The president appointed his committees for the year, as follows: Auditing Committee, George A. Appleton, Pearl J. Caldwell; Membership Committee, James Warren, Jr., George W. Creesy; Legislation, J. C. Scorgie, E. W. Mitchell and H. S. Adams.

PARK NEWS.

Work has been started on the park at the rear of the new Union station, Galveston, Tex., and it is expected the new civic attraction will be completed very soon.

Further suggestions for the extension and beautification of Louisville's (Ky.) park system were made recently in the final section of the report of J. C. Olmsted, of Olmsted Brothers, landscape architects, submitted to the Board of Park Commissioners at their regular meeting. Included in the recommendations were many specific suggestions concerning each of the various parks, as well as a number of proposals concerning the work of the park superintendent. Superintendent of Parks Kettig was authorized to proceed,

at such time as he thought advisable, to make such alterations in a natural basin in Shawnee Park as would provide a lake for skating purposes for people of the West End. The board decided to co-operate with the United States Fish Hatchery in providing trees for the hatchery grounds. A proposition from C. W. Gheens to sell the board 100 acres of ground on the Third street car line for park purposes has been received, but no definite action taken.

The work of converting the courthouse square at Orange, Tex., into a public park will be started soon. The supervision of the work has been turned over to County Judge D. C. Bland.

Residents of Greeley, Colo., will be given

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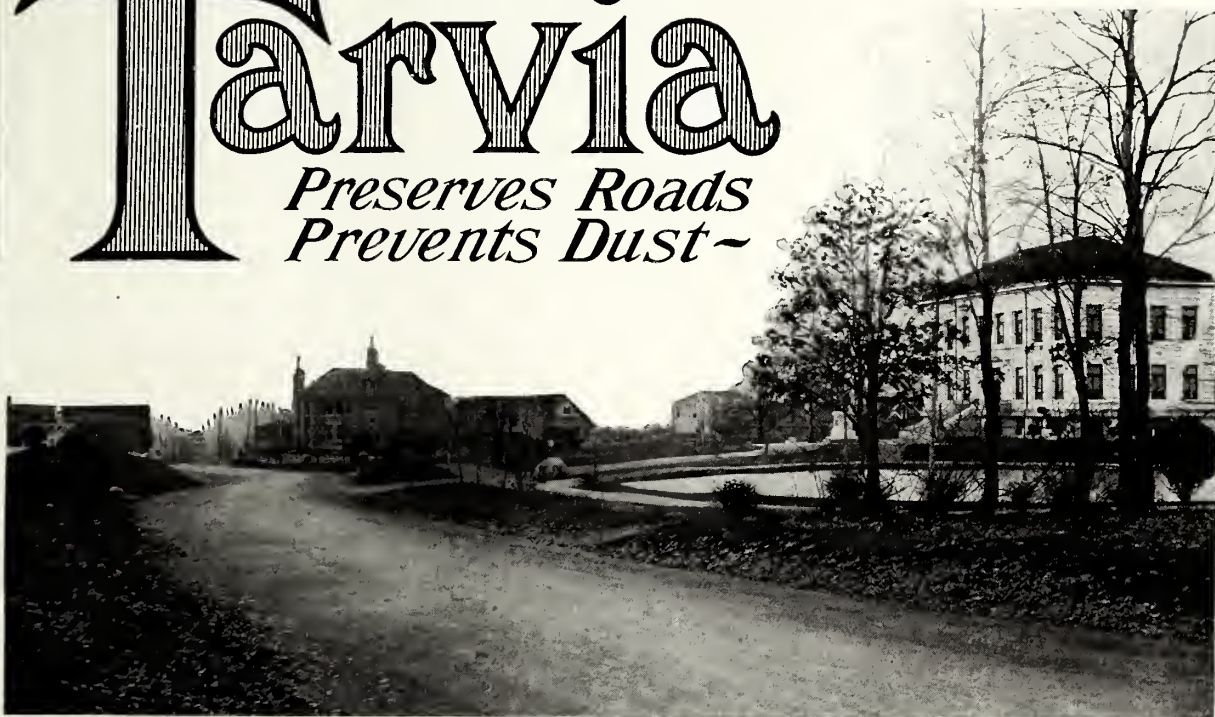
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another opportunity at the regular city election in April to vote upon the question of purchasing a site for the East Side park and to incur an indebtedness not to exceed \$4,500.

There has been much discussion in Beaumont, Tex., as to whether that city can afford to make extensive improvements in Island Park.

The bill providing legislative machinery necessary to the establishment of park and boulevard systems by the joint action of cities and counties was up for consideration in Jefferson City, Mo., recently. This bill opens the way to all Missouri cities for the establishment of outer park systems when they are needed.

The Racine *Daily Times* recently published an extended illustrated article by A. A. Fisk, superintendent of parks, Racine, Wis., on plans for developing a park and boulevard system in that city.

THE COVER ILLUSTRATION.

The illustration on the cover of this issue shows a very ornamental pattern of wrought-iron entrance gate. The scrollwork and ornaments have been very elaborately carried out in a most effective design that has much to commend it for beauty, massive dignity and substantial construction. It will be noted that the intricate pattern of the ironwork is consistently and harmoniously carried out, not only in both the drive and walk gates, but in the post-lanterns. The lanterns are an interesting feature of this design that not only serve their utilitarian purpose at night, but add an element of ornament to the posts by day. The Stewart Iron Works Co., of Cincinnati, who built the gate illustrated, are large manufacturers of these lanterns and have a special catalogue of this line. Those interested in these gate ornaments can get details and illustrations of many different styles from "Bracket and Post-Lantern Catalogue No. 2," which the Stewart Iron Works Co. would be glad to send on request.

TRADE PUBLICATIONS RECEIVED.

The Austin-Western Road Machinery Co., Karpen Bldg., Chicago, have just issued a little catalogue-memorandum book which is really a catalog of their catalogues and is a radical departure from the ordinary catalogues and circulars. The cover design, "An Idyll of the Sea," is lithographed on celluloid in twelve colors. One side of each page is left blank for notes and on the other side is the printed matter. They have adopted this form in order that their large, illustrated catalogues may reach customers at the right time; therefore this index catalogue in which is listed their complete line. From it you can order any of the special catalogues in which you are interested. Any reader of PARK AND CEMETERY who mentions this notice may have one of these memorandum books on request.



The Greenwood Cemetery Society, of Woodstock, Ill., is raising money for the cemetery fund.

The annual election of the Carlyle Cemetery Association, of Carlyle, Ill., was held a short time ago. Mrs. Christine Conwell was elected president and Mrs. Jennie Heitmeier secretary.

The trustees of the Silent Home Cemetery Association, of Cameron, Ill., met recently and organized by electing W. C. Whitman president and F. M. Devoss secretary.

At the annual meeting of the Rapidan Cemetery Association, of Mankato, Minn., the old officers were re-elected, as follows: President, George Ballard; secretary, Mrs. Eric Holberg.

The Cemetery Association of Channahon, Ill., met recently and Mrs. George Essington was elected president and Mrs. Wm. Martens secretary.

The Ladies' Cemetery Aid Society, of Elgin, Ill., met recently and elected Mrs. J. Q. Lang president and Mrs. Perkins secretary and treasurer.

Superintendent M. A. Shank, of the city cemeteries of Salisbury, N. C., recently installed a cemetery record system.

At a recent meeting of the Cemetery Association of Kilmundy, Ill., Mrs. E. C. Bargh was elected president and Mrs. Jas. T. Brown secretary-treasurer.

At the annual meeting of the Ladies' Linwood Cemetery Association, of Pana, Ill., Mrs. A. B. Corman was elected president and Mrs. J. Lee Robb secretary.

The Ashland Cemetery Association, of Ashland, O., recently held its annual meeting and P. A. Myers was elected president and A. S. Miller secretary.

John Siebert, Sr., was recently appointed city sexton at the Peru City Cemetery, Peru, Ill.

Members of the Cemetery Association of Keithsburg, Ill., met recently and elected Mrs. E. Ott president and Mrs. W. C. Bassett secretary.

Mrs. Carl Leopold and the Aspen Grove Cemetery Association, of Burlington, Ia., have donated fifty bird houses, to be placed along the public roads and in the parks and the cemetery.

The Norwood Cemetery Association, of Hearne, Tex., elected the following officers for the year: President, Mrs. Pugh; secretary and treasurer, Mrs. Henson.

New Cemeteries and Improvements.

The Cemetery Association at Rockport, Tex., is preparing to make extensive improvements this spring in concrete fencing and planting.

The City Cemetery, Warrensburg, Mo.,

will soon be improved by the erection of gateways and fencing and the construction of new roads and paths.

An ordinance was passed recently appropriating \$2,617.43 for the filling and leveling of the new addition to the Greenlawn Cemetery, Portsmouth, O.

Directors of the Mountain View Cemetery Association, Salt Lake City, Utah, are planning to make extensive improvements to the grounds this spring. All lot fences and inclosures will be removed.

The cemetery at Greenspring, O., has been enlarged at a total cost of \$1,700.

The first sections of Wasatch Lawn Cemetery, Salt Lake City, Utah, have been laid out and planted and are now ready for interments. This ground was developed on the lawn-park plan by Ware & Treganza, landscape architects of that city, and will be maintained under perpetual care.

The Ladies' Cemetery Association, of Orange, Tex., is pushing a movement to enlarge the cemetery of that city.

The Greenwood Cemetery Association, of Cedar Falls, Ia., was recently granted authority by the City Council to construct a gateway.

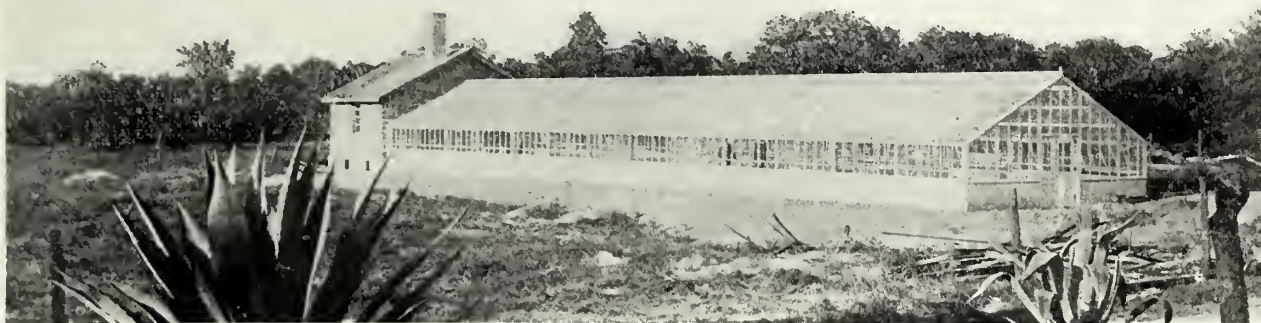
Plans are being formulated for the organization of a company to operate a new cemetery close to Newport News, Va. The capital stock of the new company will be from \$10,000 to \$15,000.

Several members of the Lutheran and Reformed congregations at Amityville, Pa., have applied to the court for a charter for the St. Paul Cemetery Co.

Application for a charter for the Russian Cemetery Co. at Reading, Pa., has been filed by Rothermal & Manger for the establishment of a new cemetery for Russians, Slavs and Greeks. The subscribers are Michael Kascur, Nicholas Kascur, Peter Eiler, John Kocserka and Nicholas D. Kascur.

An association was organized at Galveston, Tex., with John C. Ott as temporary chairman and J. E. Boddeker as temporary secretary, for the purpose of starting a campaign among lot owners for the beautification and improvement of Calvary Cemetery. Some of the proposed improvements are the extension of the street railway to the cemetery gates, an extension of the city water mains to the cemetery, and to build around the entire enclosure an ornamental fence.

The City Commissioners of Sacramento, Cal., have been requested to turn Helvetia Cemetery over to the Park Board for improvement and beautification. The fence will be torn down, the hedges will be



General Purpose House at Oak Forest Cemetery

OAK Forest Cemetery is located in Hinsdale, Ill. Here is a greenhouse built of the best of materials and in the best way possible to meet the general purposes for which it was intended. No fuss and feathers—just a plain, practical proposition.

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If you have a limited amount to spend and want to make it buy a greenhouse that will continue to continue satisfactory for you in the years to come—then we should like to correspond with you; or if you desire it, come and talk the matter over.

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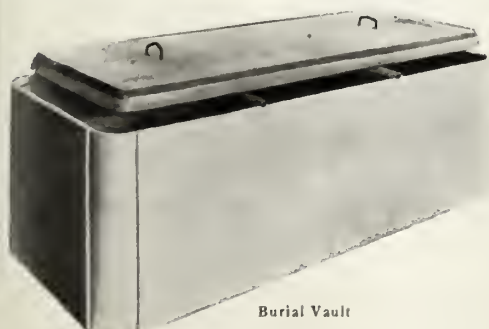
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trimmed, the grass and weeds will be scraped away and lawns planted, and an effort will be made to clean the monuments.

Means whereby the city may acquire, without purchase, the trusteeship and property rights of a majority of the plots in each of three cemeteries of San Francisco, Cal., for park purposes have been proposed.

The Walnut Grove Cemetery Association, of Booneville, Mo., has just about completed plans for a combination chapel and residence to cost \$4,000.

The Heber Springs Cemetery Association, Heber Springs, Ark., was recently organized. The following officers were elected: President, Ben F. Allen; secretary, T. E. Olmstead.

An organization to manage Maple Grove Cemetery, Canal Dover, O., was recently formed. C. E. Dallman was elected president and F. E. Stieber secretary and clerk. James Stalling will continue as sexton. There is about \$1,300 in the cemetery fund.

The Mayor and members of the City Council of Webb City, Mo., are discussing the purchase of a new cemetery for that city. Every lot in the old cemetery has been sold and residents have been forced to buy lots in neighboring cities.

Representatives of the Laurel Hill Cemetery Association, San Francisco, Cal., have prepared a bill that has been introduced in the legislature in which it is proposed to build a large mausoleum on a part of the Laurel Hill Cemetery in which all the bodies of the cemetery are to be interred. All the records pertaining to the early residents are to be kept in the buildings and it is proposed that the cemetery shall endow the institution and make it a center for the collection of historical matters pertaining to the city.

The movement to secure a new cemetery at Robinson, Ill., has made good progress. Already more than enough money has been subscribed to purchase the twenty-eight acres of land, but it is hoped by the pioneers of the movement to secure enough subscribers for the advance sale of lots to get at least \$1,000 for immediate improvements.

Through the replatting of the grounds about the main driveway to Linwood Cemetery, Galesburg, Ill., sixty-six lots were added to the cemetery, which will sell for \$100 apiece.

The City Cemetery, of Warrensburg, Mo., is being greatly improved by the erection of a chapel with toolhouse attached.

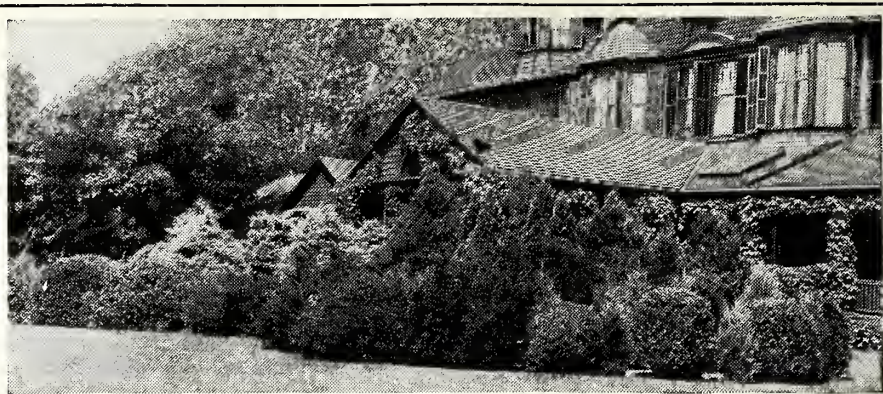
Greeley's Cemetery, Greeley, Colo., has been enclosed with a new iron fence.

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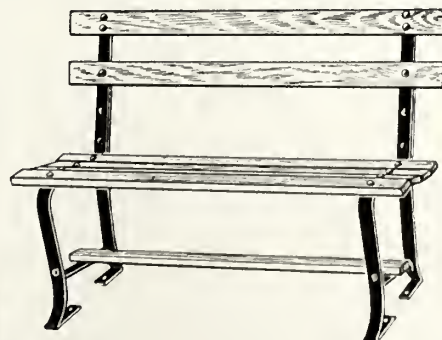
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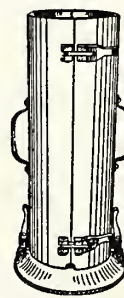
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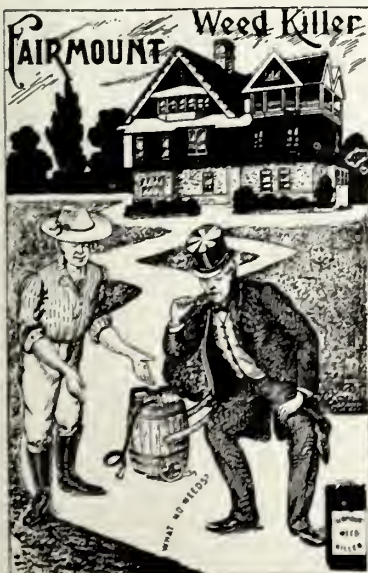
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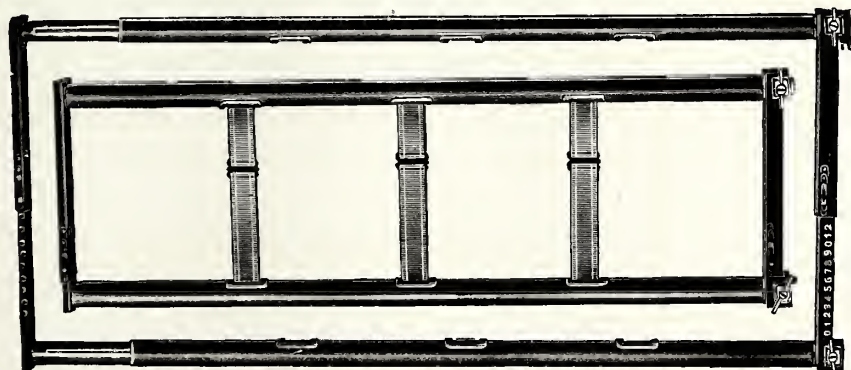
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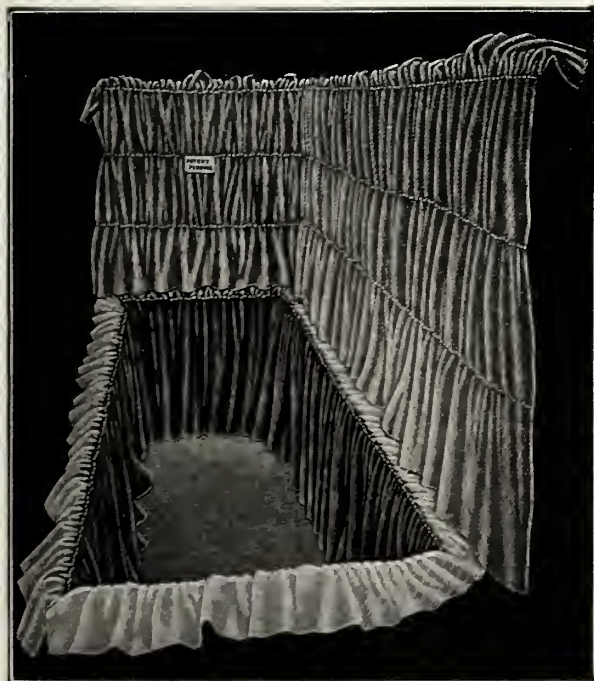
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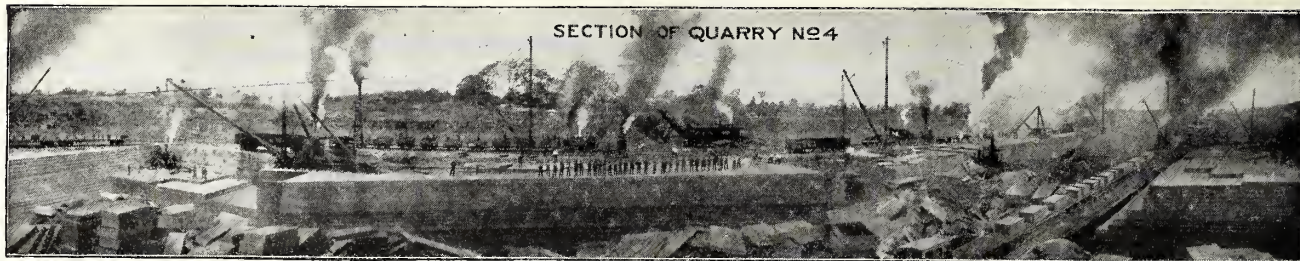


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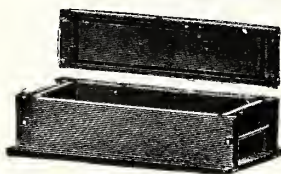
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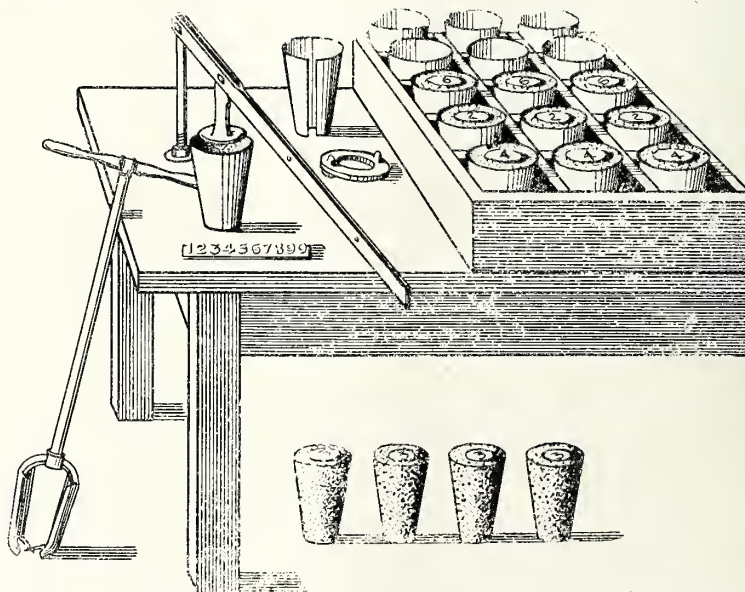
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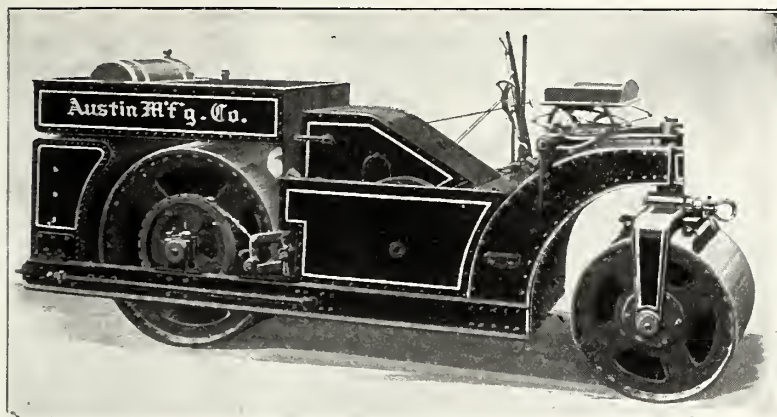
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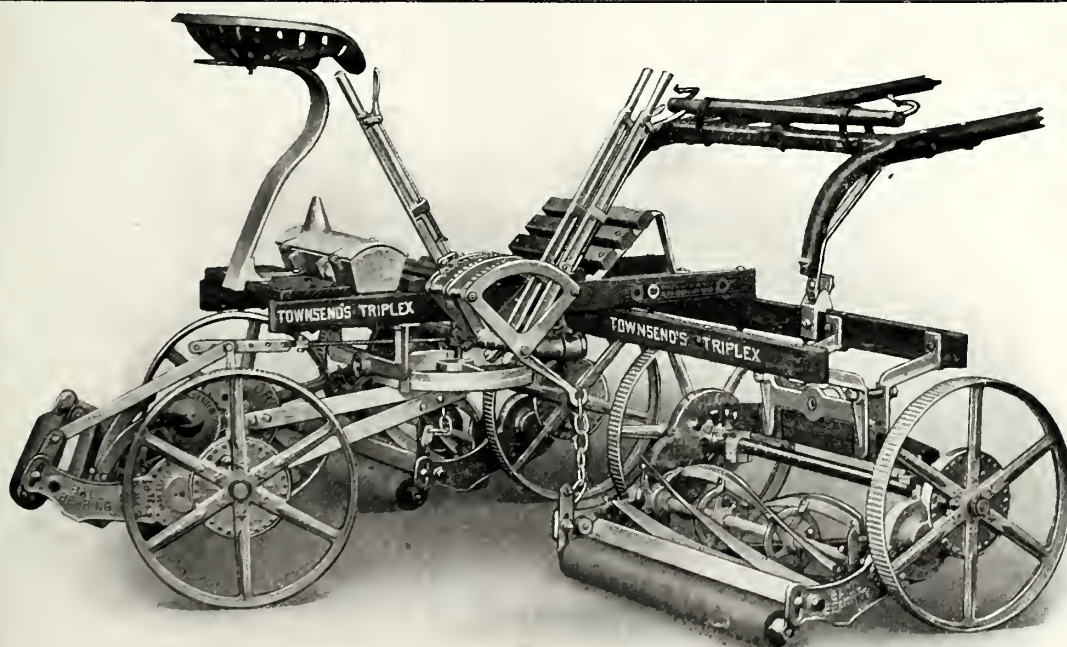
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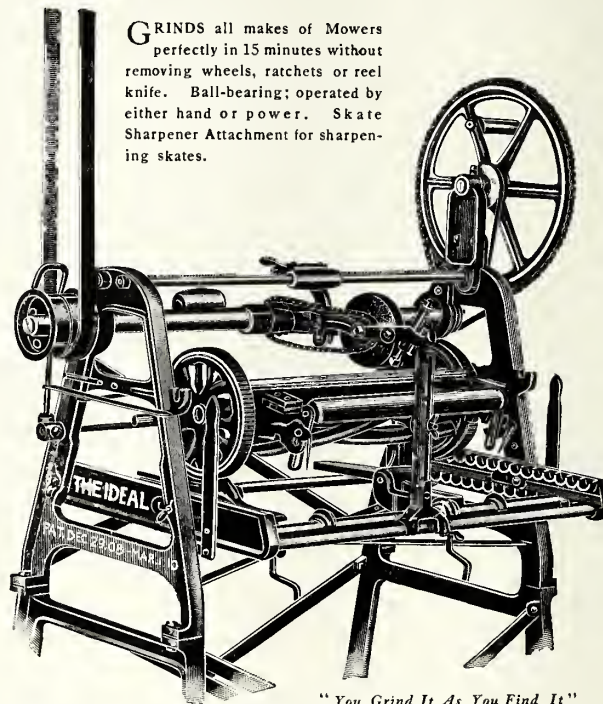
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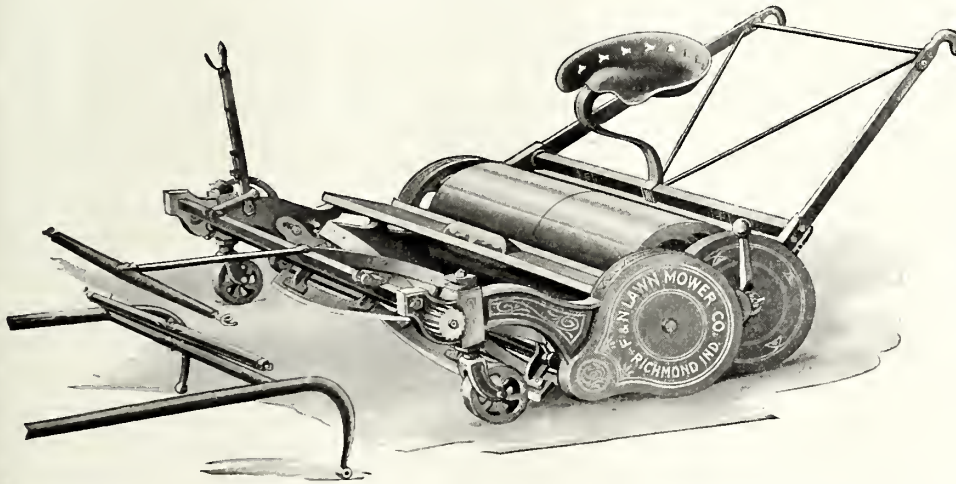
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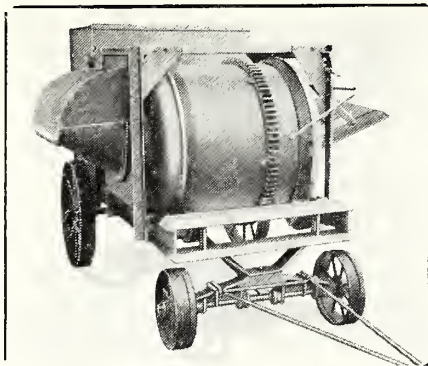
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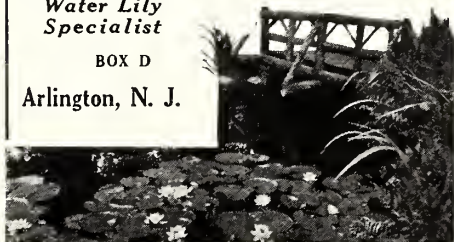
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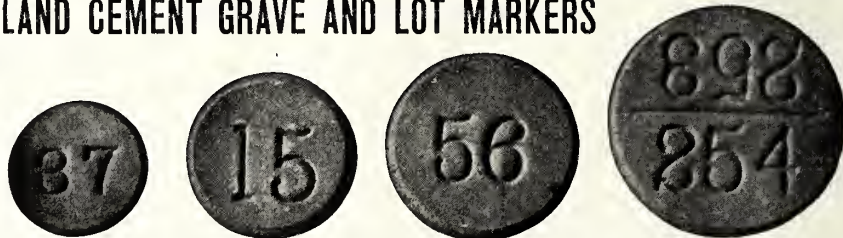
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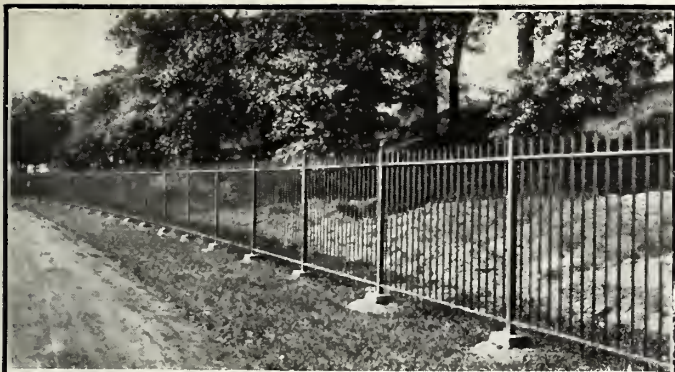
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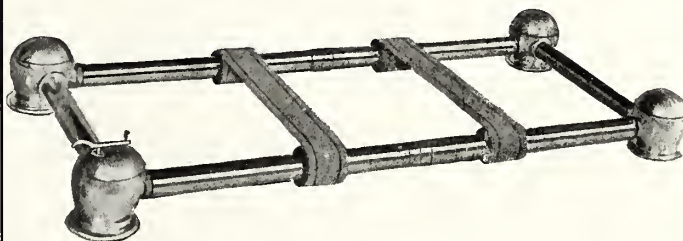
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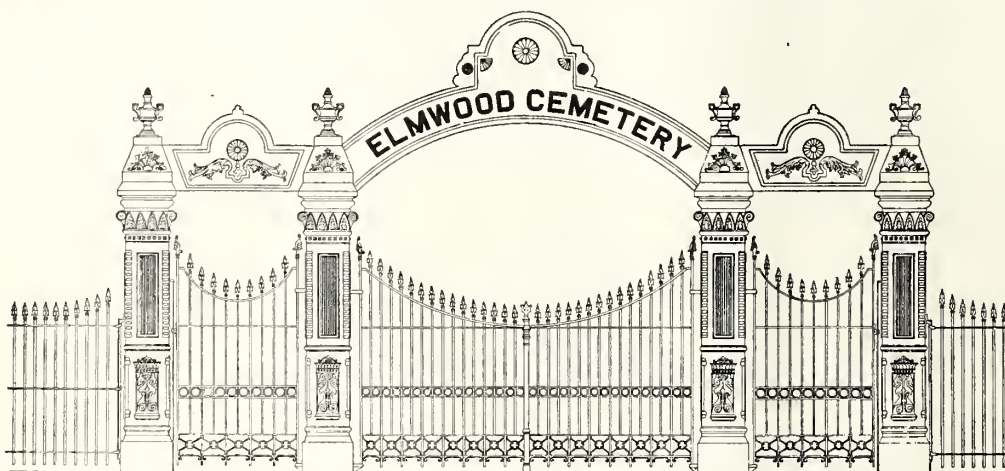
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Vol. XXV., No. 2

APRIL, 1915

SPECIAL FEATURES IN THIS ISSUE

Spring Attention to Trees and Shrubs—A Picturesque Savannah Cemetery—Spring
Pictures in Graceland Cemetery, Chicago—Attractive Effects with Evergreens—
Organizing and Developing a Modern Cemetery—Park Work in Salt Lake City

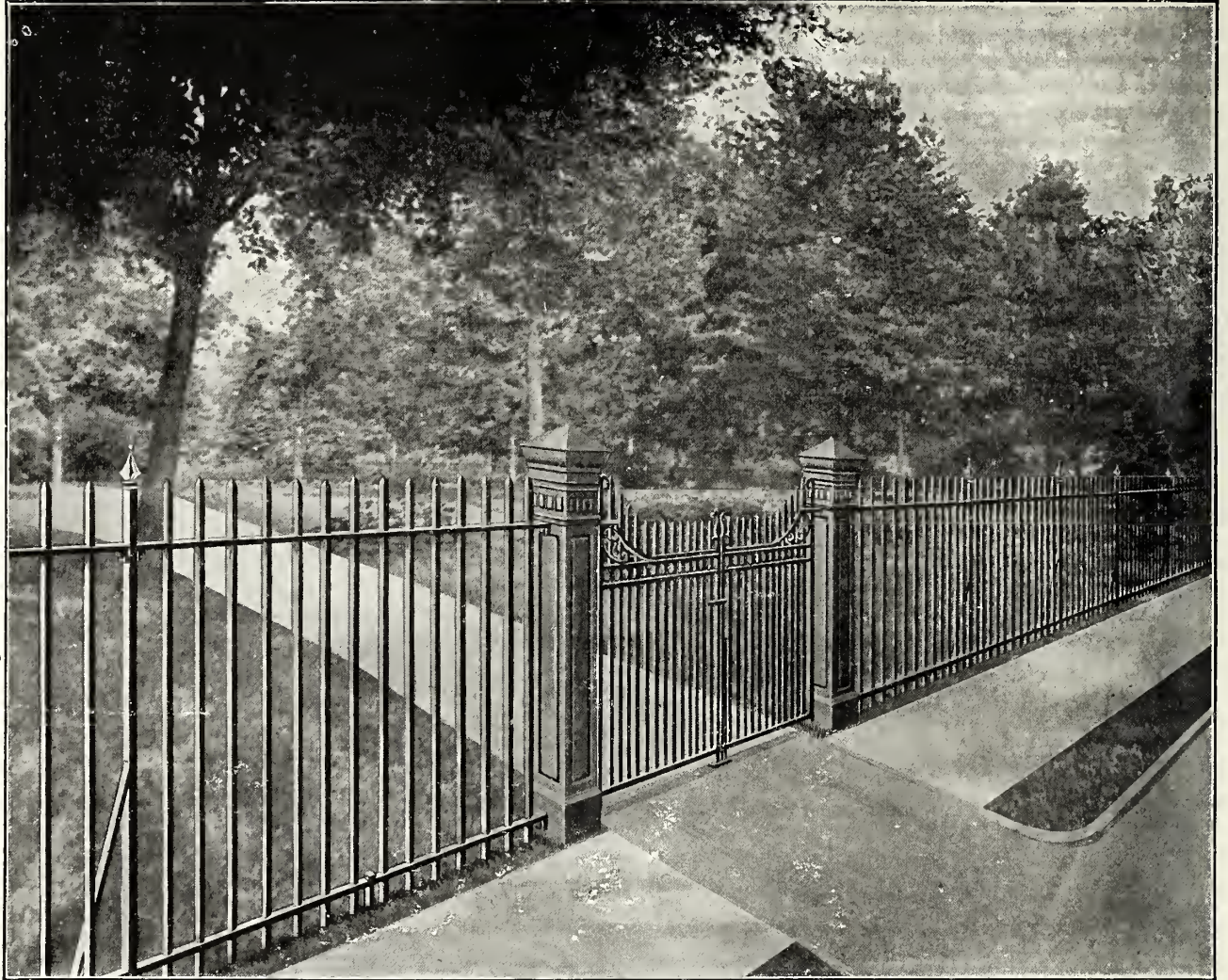


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ARE to provide the marble for the Arlington Memorial, the nation's majestic tribute to our soldiers and sailors.

In many respects the Arlington Amphitheatre will be the greatest of our national monuments. It is to be reared in the Arlington National Cemetery—across the Potomac from Washington on land that once belonged to Gen. Robert E. Lee. It

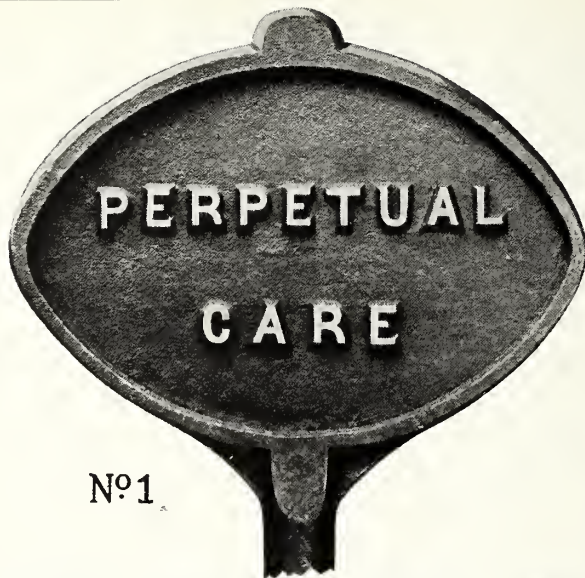
will cover 60,000 feet of space. It will call for more than 450 car loads of marble.

If Washington is to retain her place among the splendid capitals of the world, the beauty of her public buildings must be of the kind that endures. Knowing this, the Arlington commission gave Vermont marble precedence over all other building materials. They could see that monuments of Vermont marble, erected nearly a hundred and fifty years ago, are still good. No further proof was needed.

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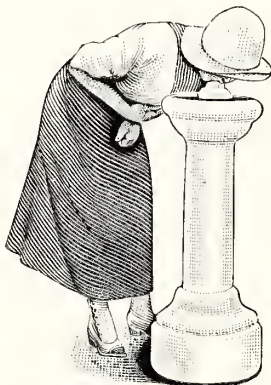
BEFORE, however, we give you a price, we would make the effort to find out if the fence you want is really the fence you need. Between the two, there is a decided difference. Based on our many years' experience, we might offer to you some very helpful suggestions for the bettering of the fence, without running up the cost. Of course, we are in the fence business to sell fence; but we are also in the business to make satisfied customers. To our notion, that is the quickest and best way to sell more fence. Let's go over together, your fence needs. After that, we will get down to figures. Send for catalog.

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APRIL, 1915

EDITORIAL

VOL. XXV No. 2

Trees and Shrubs for Different Localities

The problem of selecting the proper trees and shrubs for every locality is often a vexing and uncertain one, especially for a park or cemetery superintendent who finds himself taking up work in a new locality. This problem is frequently presented to the United States Department of Agriculture. Soil and climatic conditions differ so greatly in the different sections of the United States that in answering such questions special consideration has to be given each section. The Department's specialists have prepared a special list of trees and shrubs suited for general use in each of five general divisions of the United States. The five divisions are as follows:

1. New England States, New York, Pennsylvania, New Jersey, Ohio, West Virginia, Kentucky, Indiana, Michigan, Illinois, Missouri, Iowa.
2. Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, Tennessee, Florida, Alabama, Mississippi, Louisiana, Arkansas, Oklahoma and Texas.
3. Wisconsin, Minnesota, North Dakota, South Dakota, Nebraska, Kansas, Colorado, Wyoming, Montana and Idaho.
4. New Mexico, Arizona, Utah and Nevada.
5. California, Oregon and Washington.

These lists are merely suggestive, but they include such trees and shrubs as seem well adapted to the particular locality, and they may be of assistance to those who are interested in the beautification of towns and cities. Here is the list:

DISTRICT 1.

Deciduous trees.—Sugar maple, Norway maple, silver maple, green ash, white ash, American white elm, red oak, white oak, pin oak, American linden.

Evergreen trees.—Norway spruce, white spruce, Colorado blue spruce, white pine, Scotch pine, balsam fir.

Shrubs.—Lilac, golden bell, exochorda, snowball, mock orange, hydrangea, Japan quince, flowering currant, calycanthus, cornus, deutzia, spiraea, weigela.

DISTRICT 2.

Deciduous trees.—Tulip, sycamore, pin oak, white oak, black oak, live oak, red oak, white ash, bald cypress, Norway maple, silver maple, red elm, American white elm, Kentucky coffee, American linden, catalpa, liquidambar, Carolina poplar, hackberry, sour gum.

Evergreen trees.—White pine, long-leaf pine, magnolia, live oak, cedar of Lebanon.

Shrubs.—Golden bell, hydrangea, lilac, Elaeagnus longipes, lonicera, hibiscus, hardy roses, Japan quince, calycanthus, smoke tree.

South of Charleston, S. C.—Camellia, japonica.

Southern Florida and Texas.—Oleander, privet.

DISTRICT 3.

Deciduous trees.—Bur oak, linden, silver maple, Norway maple, cottonwood, green ash, box elder, wild cherry, larch, American elm, Catalpa speciosa, black walnut, hackberry.

Evergreen trees.—Scotch pine, Austrian pine, white pine, Norway spruce, Colorado blue spruce, white spruce, red cedar, arbor vitae.

Shrubs.—Lilac, barberry, cornus, Tamarix amurensis, Japan quince, Rosa rugosa, crataegus, Elaeagnus hortensis, snowdrop, Shepherdia argentea.

DISTRICT 4.

Deciduous trees.—Valley cottonwood (Populus fremontii wislizenia) mountain cottonwood (Populus angustifolia), mountain ash (Fraxinus velutina), box elder (Acer negundo).

Evergreen trees.—Arbor vitae, Cedrus deodara, box euonymus.

Shrubs.—Althea, snowball, mock orange, wild rose, crepe myrtle, spiraea, flowering currant, elder, lilac.

DISTRICT 5.

Deciduous trees.—(Coast region).—Large leaved maple, tulip tree, mountain ash, European linden, sycamore, weeping willow.

Shrubs (Coast region).—Roses, weigela, European holly, lilac, laburnum, deutzia, Hydrangea paniculata, mock orange, Japan quince.

Trees (Columbia Basin).—Scotch elm, American elm, Norway maple, European linden, sycamore, green ash, silver poplar, Russian poplar, white willow.

Shrubs (Columbia Basin).—Lilac, hardy roses, Philadelphus, Elaeagnus hortensis, laburnum, spiraea, Tamarix amurensis, Rosa rugosa, barberry.

Importation of European Pine Prohibited

No European pine trees will be permitted to be imported into the United States after July 1, a quarantine order to this effect having been signed by the Secretary of Agriculture. This action has been taken to save American pine trees from the pine shoot moth which has long done much damage in European forests. This pest has already become established in nurseries and parks in some states, but it is believed that by pruning and destroying the affected shoots the disease can be stamped out if no more infected nursery stock is imported into the country. The European pine shoot moth eats out the new buds and kills or deforms the young twigs of pine trees in such a way that the timber value is seriously and permanently lowered. The moth feeds mostly on young trees between 6 and 15 years of age, destroying a large number of

buds and young shoots and injuring adjoining ones. These injured shoots bend downward and outward, afterwards growing upward again. When the pest is abundant the trees are rendered unsightly and crippled and of no commercial value. The moth lays its eggs early in August, singly on the new buds of the pine. It is impossible to reach the larva with any insecticide after it has once found its winter quarters, and the only effective way of combating the pest is to destroy the infected buds and twigs. Pruning of this kind in the fall and winter months will minimize the damage in the spring, but it is more difficult to determine the existence of the pest at this time than when the injury is further developed. A little practice, however, will enable the expert to recognize the trace of pitch at the base of the bud covering the entrance hole of the larva.

Editorial Notes

More than nine million young trees and ten thousand pounds of seed were planted on the national forests in 1914.

At least 25 per cent of the larch timber over large areas in eastern Oregon has been killed or weakened by mistletoe, and the Forest Service is taking steps to combat the pest.

Success has followed forest planting on the sandhills of Nebraska. Jack pines planted there by the Government Forest Service ten years ago now have a height of over fifteen feet and a diameter of four inches.

Forbach, Germany is said to have the most profitable town

forest known; it yields an annual net gain of \$12.14 an acre.

The State School of Forestry at Bottineau, N. Dak., announces that it will have one million trees for distribution to the citizens of the state during 1915.

To guard against tree repair fakirs or quack tree surgeons, the Massachusetts Forestry Association will inspect the shade trees belonging to its members free of charge.

The Sihwald, or city forest of Zurich, Switzerland, adds to the town's revenues \$7.20 per acre a year, reducing the amount needed to be raised through taxation by more than \$32,000.

SPRING PICTURES IN GRACELAND CEMETERY

The illustrations in this number show some of the attractive trees, shrubs and flowers in Graceland Cemetery as they usually appear in May. The seasons vary greatly at Chicago. Crabapple trees have been known to be in full bloom on the first of May and there have been years when they did not blossom until about the end of the same month. Although it is

gradually to incorporate in Graceland Cemetery.

A cemetery has some advantages over a park as a place where we can have beautiful effects of vegetation. There is less danger of flowers being picked and of plants being destroyed. The grounds are usually open only during daylight. As there are no games and usually no crowds

for those who have passed on; a place most likely to remind one of the pleasant hours that may have been lived with the departed. Here in April one will find great masses of the yellow forsythia, or the Cornelian cherry. Underneath these and other bushes and trees the ground will be covered with snowdrops, scillas, hepaticas, crocuses and other early flowers. Then



ELM AT LEFT; CRABAPPLE BLOSSOMS AND YOUNG OAK LEAVES AT RIGHT; GROUPS OF THORN APPLES IN DISTANCE.



WILLOWMERE IN GRACELAND; A BEAUTIFULLY FRAMED WATER PICTURE WITH CLASSIC MEMORIAL IN THE DISTANCE, REFLECTED IN WATER.

generally conceded that Graceland is beautiful at any time of the year, and especially so during May and June, and although there are bits of scenery here and there which one would not care to change, the effect as a whole has not yet reached the perfection desired by the management. A brief statement of some of the spring effects which those in charge aim to introduce may be of interest.

Nearly everyone loves spring. As the days lengthen and the buds on the trees and bushes begin to swell, we imagine the beauty of the coming leaves and flowers, but as we actually see these in all their freshness of color, doubtless many have thought that the charm of the reality far exceeds one's imagination. At this season of the year people like to go to the woods to see the growth and the wild flowers. One often exclaims with delight at the discovery of an area profusely covered with hepaticas, bloodroots, trilliums or adder's tongue. The snow-like blossom of the Juneberry, appearing before any of the neighboring oaks are in leaf, gives one joy. The unrolling fronds of the ferns, the green patches of moss, wild violets and wild phlox, the little discoveries and surprises give a delight which is greater than that usually given by the more artificial effects in a park. It is this charm of the native woods, of the close association with nature, which the management hopes

of people the birds feel more at home. In many cases there is continuity of management. An effect may be desired which will require years of growth. The trees and bushes may be planted which are to produce this effect and these are not likely to be disturbed by changes in politics or changes in administration. Of course, the use to which a cemetery is put makes it difficult, although not impossible, to create as beautiful landscapes as are attainable in a park or a private estate, but often there are opportunities for lakes, wooded ravines, wild thickets of native growth, quiet retreats for birds and an abundance of wild flowers. The cemetery should, in fact, be a paradise for birds. The open lawns supply angleworms and other food. All forms of vegetation supply food for insects, which in turn are eaten by our feathered friends. The various plants produce berries and seeds as an additional supply of bird food, while the birds more than repay us for what they get by their beautiful forms and colors, their graceful motions, their songs, and by protecting us against insect enemies.

A cemetery is often called a "city of the dead." Some shrink from visiting it on this account, but really it should be a place for the living, a place to be visited for its beauty and the inspiration which nature gives; a place which on account of its natural beauty is the most fitting memorial

come the plum and cherry blossoms, tulips, bleeding-hearts and trilliums. Very early one finds the blossoms of the red-berried elder, to be followed later by its brilliant fruit. The young leaves appearing on all the trees and bushes are almost as pleasing as the flowers. The new growth pushing out through the brown leaves that have formed a protecting ground cover during the winter is always interesting. Very quickly this cover of last years' leaves is itself hidden by the green leaves of smilicina, erythronium, uvaria or some other early flower that takes advantage of the abundant sunshine before the shade-producing leaves appear. With the early flowers, or perhaps preceding them, come the robins and song sparrows, to be followed a little later by thrushes and catbirds, and still later by the various warblers, orioles and other songsters. These harbingers of spring seem as welcome each year as they were the year before. Some things grow tiresome or monotonous, but this is never the case with the characteristic features of returning spring. In May come the crabapple and thornapple blossoms, the latter often extending into June. We often read of the cherry blossoms of Japan and the pilgrimages made by people for the purpose of visiting these flowers. A friend of the writer, who visited Japan in the cherry-blossom season, said that the crabapple blossoms on his own place in



SPREADING OAK WITH TULIPS BENEATH.



LINDENS AND LILACS IN GRACELAND.



CLOSE VIEW OF THORN APPLE, SHOWING BUDS, BLOSSOMS AND YOUNG LEAVES.



THORN APPLES IN BLOSSOM, FRAMING AN ATTRACTIVE LAWN PICTURE.



THORN APPLES AND MAPLE WITH DRIVEWAY IN DISAPPEARING CURVE BETWEEN.



TYPICAL DRIVE, FRAMED WITH ELMS; A TANGLE OF ENGLISH OAKS AT THE LEFT.

Illinois are more beautiful than the famous Japanese cherry blossoms. A cemetery would be a fitting place for great masses of crab-apples, to admire which our own people would make pilgrimages. Occasionally there will come a day in spring when on visiting plum or apple blossoms one may be fortunate enough to see in the midst of the bloom a scarlet tanager or a Baltimore oriole and he will feel that this day has not been lived in vain.

The glories of spring are too numerous to be outlined in an article which is necessarily brief. All that one can do is to

COMPILING A FIFTY-YEAR INTERMENT RECORD.

T. F. Shouse, superintendent of Springhill Cemetery, Danville, Ill., recently completed a gigantic task, that of building a diagram record showing with drawings the exact location to feet and inches of the interments on every lot. The cemetery management has felt the need for some time of such a record, but to go back for fifty years to work up such a record was a big proposition to undertake. Mr. Shouse has been working on this for nearly two years, and now has it completed, with some slight changes yet to be made, and this work includes the record of about ten thousand interments. The record is in the form of five small volumes of loose-leaf sheets, 5x9½ inches in size. One side is

hint at the beauty of nature, which is so appropriate in a cemetery. Here one might go not only to enjoy nature, but also for a little rest and seclusion which all must crave at times.

Graceland, once far out beyond the outskirts of Chicago, is now entirely surrounded by the city. It will remain for an indefinite period an oasis in a desert of brick and stone and pavements. As such an oasis, an endowed retreat for people, for birds, for native trees, bushes and wild flowers it will serve in the future its most useful purpose.

for the record, and is reproduced here. The other side is ruled in small squares for the lot diagram. Mr. Shouse believes a small sheet is preferable, so that if a mistake should be made in the drawing a new sheet can readily be inserted: In compiling this record many interments were located which had no headstones, by putting a field man on the grounds with maps and measuring lines, locating the graves by measuring from lot lines. This was an enormous task, measuring up about ten thousand interments. Thus far the record has been found very helpful in locating new interments.

Lot		Block		Section		Square Feet					
Owner											
Grave	Date of Burial	Record of Interred				Head	From Line Ft. In.	Side	From Line Ft. In.	Length Ft. In.	Width Ft. In.
1											
2											
3											
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SPRING ATTENTION TO TREES AND SHRUBS

(From Bulletin of Missouri Botanical Garden.)

All pruning of trees and shrubbery should certainly be done before the starting of the buds in the spring. Trees should be pruned of all dead limbs and water sprouts, or suckers. Dead limbs are readily distinguished from living ones by the absence in the former of a green layer directly underneath the outermost layer of bark, a condition which, at least in young shoots, can readily be ascertained by the use of the thumbnail. Water sprouts, or suckers, are the small shoots almost invariably produced on the larger limbs of trees and frequently also on the trunk near the point at which the latter emerges from the soil. All of these should be removed. Aside from these general suggestions, it is almost impossible to give directions which will enable one unfamiliar with the general subject of pruning to properly prune a tree. Where trees have been properly cared for in the past, however, it is very seldom necessary to remove limbs over two and one-half to three inches in diameter; more severe pruning should never be attempted by an amateur. It is true that it has frequently been done in St. Louis by men who claimed to be experts, but the hideous results of their work are apparent in many private places all over the city. If there is

any doubt in regard to the pruning of large trees, it is desirable to call in a known expert for advice.

Shrubs, while just as amenable to good and proper care, suffer less from neglect than do trees. A general rule applicable to the pruning of shrubs is that early-flowering shrubs are preferably pruned after blooming, and late-flowering ones in winter or early spring. Early-blooming shrubs usually produce their flowers on wood developed the previous season, while the later-flowering ones produce them on new wood. The golden bell, or Forsythia, for instance, blooms in the very early spring on the woody growth made the previous summer. If this were pruned away in the spring all the "flower wood" would be destroyed. On the other hand, hydrangeas bloom late in the season on the ends of shoots produced that year from buds on the old wood. It is usually customary to prune hydrangeas (in the spring) back to two or three buds, as the flower crop is thereby not endangered. If good results are to be obtained from the pruning of shrubs, therefore, the time and habit of their blooming must be carefully taken into account.

Trees and shrubs are often affected with

scale insects and other diseases. During the summer months it is almost impossible to kill the former without injuring the foliage; in winter or early spring, therefore, also this important work must be done. It is safe to say that in St. Louis no large group of woody plants is entirely free from destructive scale insects, and it is recommended that at least once each winter or early spring a competent gardener be called upon to thoroughly spray the trees and shrubs. If spraying is to be done on an extensive scale, a spray pump is necessary, but if only a few plants are to be treated, a pail and whiskbroom will suffice. Trees and shrubs may be sprayed in the early spring by using the well-known Bordeaux mixture, made as follows:

A. Dissolve four pounds of copper sulphate in four gallons of water.

B. Dissolve four pounds of quick lime in four gallons of water.

Place solution A in a barrel or spray tank having a capacity of fifty gallons and add thirty-eight gallons of water. Dilute solution B in four gallons of water and after thorough stirring add to the solution in the barrel. When mixed the solution is ready to apply.

Solutions A and B may be made up in

greater quantities, using the same proportions, and kept as stock solutions.

If disease appears after the foliage is on the trees, the same mixture may be used, but, except for fruit trees, one early spraying should be sufficient for a season. If caterpillars appear after the leaves have come out, it will be necessary to spray again with a poison, such as Paris green or arsenate of lead.

In the care of woody plants it is further important that the soil beneath the trees and shrubbery be dressed with manure, and the latter spaded in. This is not always possible in the case of trees on the lawn, but all shrubbery borders should be so treated in the spring, and furthermore

the soil of these should be kept well tilled, or cultivated, throughout the summer.

Perennials.—Such plants as phlox, golden glow, golden rod, and asters, which grow from roots, bulbs or root-stocks that remain dormant in the soil during the winter, are known as perennials. There exists considerable disagreement as to the best time for moving and rearranging plants of this class, *i. e.*, whether it should be done in the fall or spring. However, if the work is not delayed too long in the spring, there is not much choice, and shifts may be made at either season. Perennials, when healthy, become crowded and overgrown, and when this condition arises they should be dug and divided into smaller

clumps. The soil should be spaded deeply, enriched with manure, and the plants reset, allowing sufficient space between individuals to obviate the necessity of again shifting them within the next two or three years. Perennials, as a rule, unless very carefully handled, are likely to bloom less profusely the first season after shifting, but in subsequent years the increased flower production will usually more than compensate for the loss sustained during the first season. All old growth of perennials should be removed before the new spring growth begins, and if the plants have been covered with a mulch of straw or manure during the winter this should be removed and the ground between the plants thoroughly spaded.

ORGANIZING and DEVELOPING A MODERN CEMETERY

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City, Mo.

IV.—The Topographical Survey.

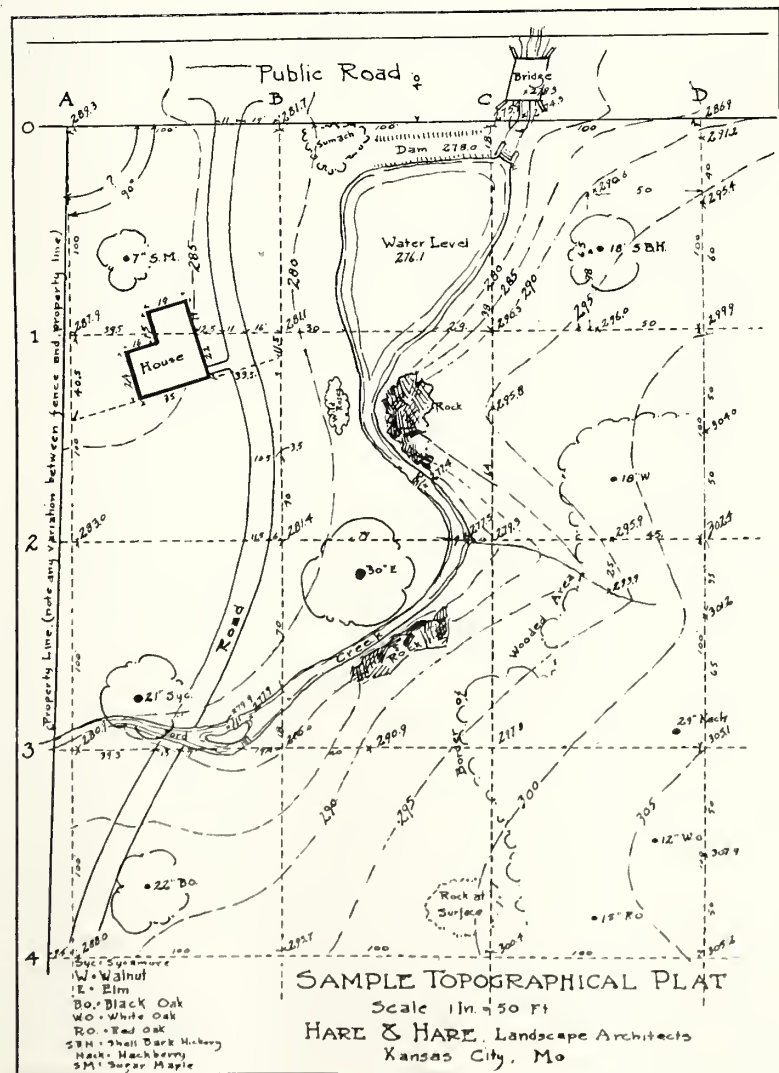
In the previous three chapters we have considered the external influences affecting a cemetery, the location, ownership and area required. The site, having been selected, the next step is to gather such data regarding it as can be recorded on a plat and used in preparing the plans for the development. Upon the accuracy of this data depends the accuracy of the results shown in the plans of the landscape architect. The harm done by an inaccurate plat is three-fold: it reflects upon the engineer who made it (and the inaccuracies are sure to be discovered in time); it misleads the landscape architect, hindering him in producing the best and most economical results; and it is an injustice to the clients who are paying both for the inaccurate plat and for the work of the landscape architects based upon its inaccuracies. Some inaccuracies are apparent at first sight and can be corrected, but many are more subtle and do their damage before discovered. The authors mention this subject here because in designing many hundreds of acres in cemeteries they have been favored with very few topographical maps that were reasonably accurate.

The information that should be recorded is, first, an accurate boundary survey, giving the legal description of the property, lengths of all sides, the angles, and description of any curves. The conformation of the ground should be shown by contours accurately platted from a sufficient number of elevations, with ridge and valley lines indicated. A contour interval of five feet is usually sufficient in cemetery work, although a smaller interval can be used on more level ground. The size, name, condition, and location of all native trees should be taken, except in cases where the land is well wooded and the

loss of trees at any particular location would be unimportant. In this case the tree masses may be outlined, but larger trees, which are especially valuable, should always be noted and located. Groups of native shrubbery or plants typical to the different portions, soil conditions, rock

outcrops, and location and elevations of springs, etc., are all necessary information.

A topographical survey is most easily and quickly taken by what is known as the stadia method, but this should never be used in cemetery work, first, because it is



subject to inaccuracies, and, second, because it leaves no definite points from which to take further notes. The method which should be used is generally known as cross sectioning. The land is divided into squares—that is, stakes are set at even distances each way at the corners of the squares. The usual size of these squares is 100 feet. Elevations are then taken with a level at these points, and at the ridge and valley lines and other breaks in grade between. It can be seen that the chances for inaccuracy are very small, as the work is easily checked. Trees, rock, and other features can be readily located from these stations, and moreover, when roads and lots are platted they can be related to these points; in fact, practically the whole development of the cemetery in the future can be based upon the original stations. Therefore, it is desirable to have at least every third or fourth stake an iron rod, set in concrete, so that the location cannot be lost. Also, the lines should be parallel and at right angles to *one* property line, rather than using as base lines *two* property lines which are within one degree or so of being at right angles to

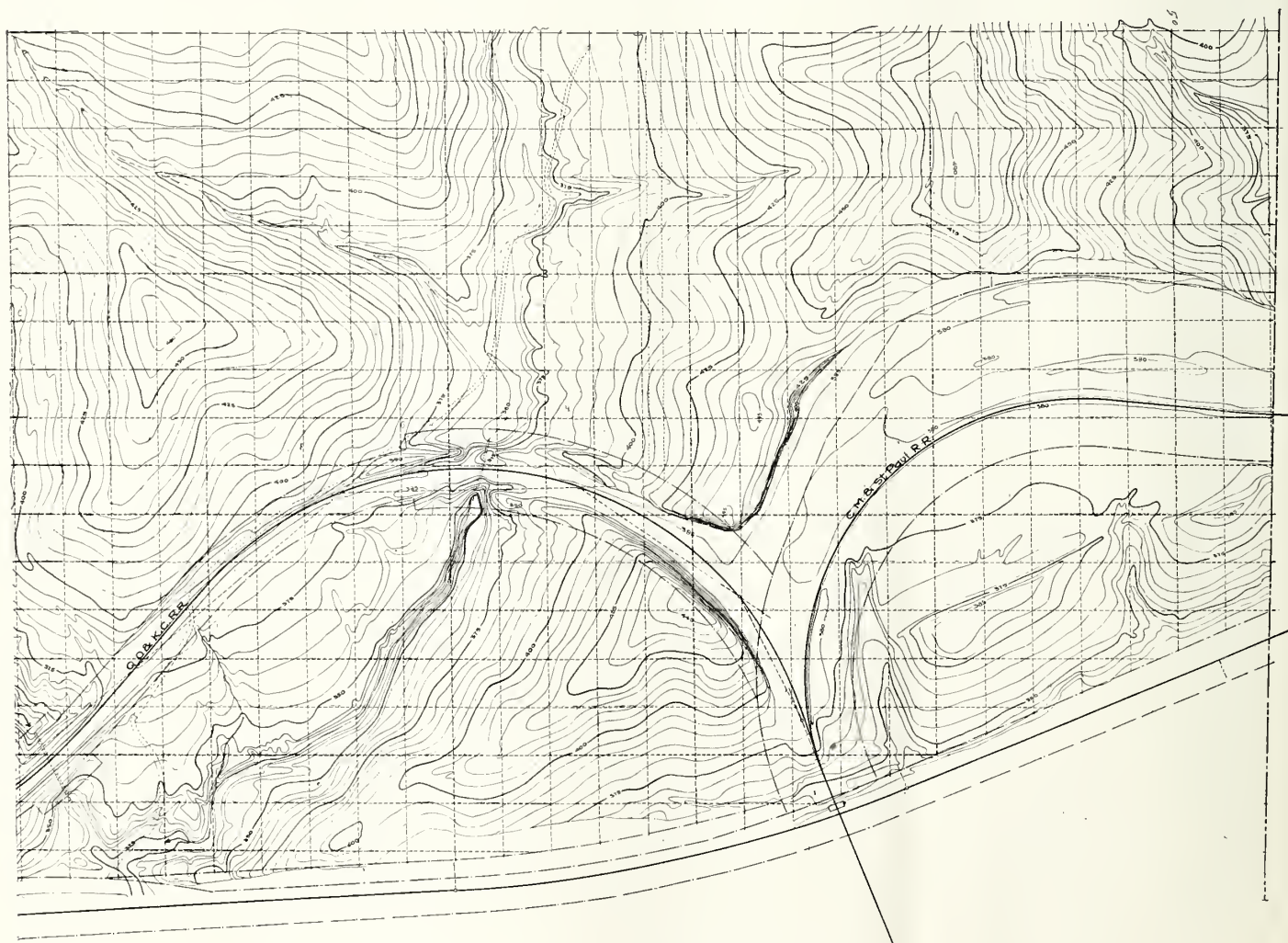
each other. The importance of having the cross section lines absolutely at right angles is a provision for the future, in relating lots to them, and in making calculations for road locations.

The scale of the topographical plat will depend upon the extent of the ground, and may vary from 20 to 100 feet to the inch. Forty feet to the inch is a convenient scale for cemeteries of medium size—that is, 40 to 60 acres. The original drawing, and not merely a blue print of this plat, should be given to the landscape architect, as blue prints are always out of scale.

This completes the work of the engineer for the time, and the landscape architect is now ready to proceed with his planning. Except in very unusual cases, a visit to the ground is quite essential, and in most cases one or more visits should have been made in helping choose the site. Many mental notes of conditions and opportunities, which would be difficult to record in any way, but which are invaluable in designing, will be made almost unconsciously by the landscape architect. The soil and the native growth can be further observed, but more especially the special

opportunities of views and vistas either distant or within the ground which should be preserved or opened, as well as those which should be screened. Hills, mountains, groves of trees, buildings or other permanent objects, even though beyond the limits of the ground in question, can often be "borrowed," as it were, and incorporated into the landscape.

Investigation of the possibilities of water areas should always be made, as nothing adds so much to the completeness of a landscape as water. Constant reliable source of supply; the probability of the soil holding water; the drainage area and possibility of floods, and the amount of silt from cultivated land which is apt to fill the lake, are all important. The sizes of bridges or culverts which are or which are not adequate in heavy rains should be noted. Many things in the surroundings will, as was said, be noted almost unconsciously by one who is trained to watch for opportunities. Photographs from certain definite points recorded on the plat, either in panorama or in certain directions, will help to recall the land when working in the office. The stereoscopic



EXAMPLE OF TOPOGRAPHY ON AN EXTENSIVE HILLY TRACT TAKEN BY CROSS SECTIONING.

Showing 100 foot squares and five foot contour intervals. Elevations at 100 foot points were omitted on account of the small scale; road system for this property, as designed by Hare & Hare, will appear next month.

camera is especially suited for this work, as it reproduces the perspective and the lay of the ground most accurately.

It might be well to say a word in discouragement of the practice, all too common, of "cleaning up" a piece of land before the landscape architect sees it. Groups of native shrubbery and plants often relieve the bareness of a new development and can be fitted into the new landscape with good effect. There is a growing appreciation of our native plants in all parts of the country. Under care and cultivation they equal or excel in beauty many of the highly developed ornamentals of our

nurseries, and have an air of dignity and fitness in certain situations that the latter often lack.

The native trees recorded on the topographical plant can be checked by the landscape architect on the ground and a tentative or final decision made as to those worth retaining. Trees that obviously should come out should be blazed at this time to insure the work being done. Native trees are an asset that cannot be too thoughtfully considered, but often it is as important to the landscape effect that certain groups of trees be eliminated or thinned as that trees should be planted in

other places. This, however, should be wholly the decision of the landscape architect, as in the case of the other native plants. A very satisfactory effect for cemeteries is obtained by leaving large trees 40 to 60 feet apart, allowing sufficient light and air beneath for a lawn, with occasional groups of 5 to 10 trees closer and occasional lawn areas free from trees. In choosing trees to be retained, consideration should be given those which are best suited to the special needs of a cemetery and those which are most likely to survive under the new conditions.

(To be continued.)

ATTRACTIVE EFFECTS IN EVERGREEN PLANTING

Some of the most effective plantings of evergreens for cemetery landscape effects to be seen anywhere are to be found in Graceland Cemetery, Chicago, where the idea of utilizing evergreens in carefully studied effects in combination with deciduous stock has been most effectively worked out by O. C. Simonds, the landscape architect of these beautiful grounds.

Some very interesting effects have been worked out in Graceland for forming back-grounds for monuments, screening side-hill receiving vaults or mausoleums, and other special cemetery uses. The evergreen plantings at Graceland, illustrated in our last issue and in this one, were made by O. C. Simonds & Co. from stock furnished by the D. Hill Nursery Co., of Dundee, Ill.

It has been sixty years since the original Hill Nurseries were established. In 1855 a small nursery, devoted exclusively to evergreens, was started at Dundee, Ill. At this time not much was known about growing evergreens from a scientific standpoint, and only a few acres and a small number of men were employed. The Hill Nurseries have expanded until at the present time the nurseries, greenhouses, seeding beds,

testing grounds, etc., cover a space of more than 450 acres.

All well-drained soils are adaptable to evergreen plantations and the following varieties are recommended for park and cem-

etary use: American arbor vitae, red cedars, white pine, dwarf mountain pine, white spruce, blue spruce, Black Hills spruce, dwarf junipers, Douglas fir, Concolor fir, hemlocks, yews and others.



EVERGREEN PLANTING ON CHAPEL GROUNDS, GRACELAND CEMETERY, CHICAGO.
O. C. Simonds & Co., Landscape Architects.

PARK SUPERINTENDENTS AT SAN FRANCISCO

The seventeenth annual convention of the American Association of Park Superintendents will be held in San Francisco, August 18, 19 and 20.

The opening day, the 18th, will be devoted exclusively to business sessions, morning, afternoon and evening, while the two succeeding days will be given over to inspection tours and social functions.

Inasmuch as the Society of American Florists and the National Association of Gardeners have set their convention dates for the same week at San Francisco, the three organizations will undoubtedly bring together a tremendous gathering of men engaged in these professions.

The Park Superintendents' Association, in an effort to have as many as possible travel westward together, is arranging for

a special train from Chicago through to San Francisco via the Pacific Northwest, which is conceded to be a scenic wonderland.

The party will assemble at Chicago on August 8 and stopovers are planned at Minneapolis, Glacier National Park, Spokane, Seattle, Tacoma and Portland, where elaborate entertainment features will be provided by local authorities at no expense to the party except at the National Park. Members and friends and relatives of kindred societies will be invited to join the party. No specific return route is being planned, as the length of time to be spent at the San Francisco and San Diego expositions is so much of an individual matter dependent on time and means and a return route via Colorado or the South is an open question for individual decision.

Further details may be had from Secretary Roland W. Cotterill, Seattle, Wash.



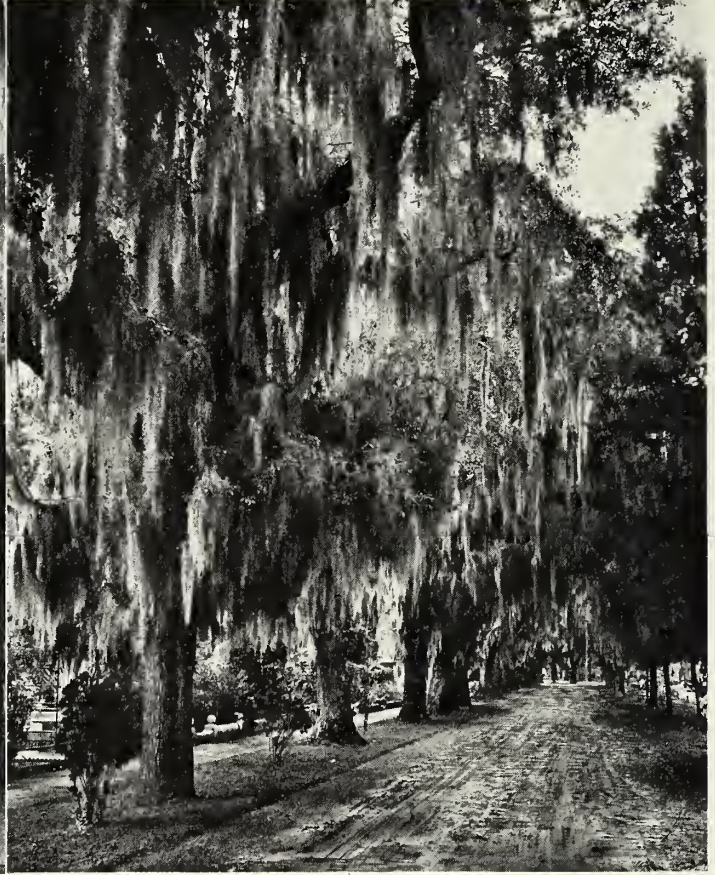
BONAVENTURE, PICTURESQUE SAVANNAH CEMETERY

One of the most picturesque and interesting cemeteries in the country is Bonaventure, in the historic city of Savannah, Ga. This remarkable burial ground is known the world over for its natural

clude live oaks, cedars, hollies and water oaks. There are about two miles of paved roads and about two miles unpaved.

The total number of interments is not known, but the yearly average is from 140

ply. The superintendent has filled in a low place and made an entrance for the Hebrew section. Cost, \$1,000. It consists of gates, pillars and a section of gravel road. They have recently grubbed up and devel-



INTERSECTION OF LIVE OAK AND PALMETTO AVENUES, LIVE OAK AVENUE, BONAVENTURE CEMETERY, SAVANNAH, GA.

beauty, for the avenues of live oaks, hanging with Spanish moss, the cedars and holly and palmettos. It was established in 1850 and contains 92 acres, of which about 40 are improved. It is traversed by St. Augustine Creek, and the native trees in-

to 160. The cemetery is owned by the city and is in charge of Superintendent J. T. McCormick.

Substantial improvements have been made within the past two years. A new artesian well has been dug for water sup-

plied Section K, consisting of 631 lots, and Section P, 250 lots.

Extensive planting of live oaks and magnolias has been done along the principal avenues. The soil is, of course, sandy, with a hard bottom six to eight feet below the surface in some places.

SELLING CEMETERY LOTS ON CREDIT—IV

Symposium of Methods and Forms Used by Many Cemeteries in Lot Sales and Collections.

We have never had a lot holder discontinue payments before lot was fully paid for. The following contract note explains our method of collection:

\$.....
Peoria, Ill.190..
Received of Dollars
on account of lot numbered..... in Springdale
Cemetery, andhereby agree...to pay
.....Dollars in addition
thereto, on or before....., which, if
so paid with interest, will entitle the said.....
to a deed for said lot; but if not so fully paid for
as by these terms herein agreed upon, then this As-
sociation shall thereby be released from all obliga-
tions to make a deed for the same or any part
thereof, except for so much of said lot as may be

then occupied by interments. But one interment al-
lowed on this lot until paid for in full.
SPRINGDALE CEMETERY ASSOCIATION,
by its.....
No.
.....
If paid within 90 days, without interest.
SPRINGDALE CEMETERY
Peoria, Ill.
* * *

Relative to selling lots on time, we have sold lots in this manner in Pine Grove Cemetery for more than thirty-five years. We require an initial payment of 25 per cent of the purchase price of the lot at the time the first burial is made. At this time the purchaser signs an agreement to make monthly payments of 10 per cent of

the purchase price until paid in full. For each additional burial another 25 per cent of the purchase price must have been paid.

If the purchaser does not live up to his agreement we then have the authority to remove the body or bodies to a single grave section at the owners' expense, sell the lot and refund any balance there may be after so doing.

Usually refusing to make further burials until the lot is paid for in full is all that is necessary, but we have had cases where we have been obliged to sell either a part of the lot or remove the bodies and sell the whole. I do not think the Massachu-

setts laws would allow the removal of bodies without the consent of the lot owners, which we have, however, by their signing the enclosed agreement. In one instance, when the lot was half paid for and we were unable to collect any more, we sold the other half of the lot.

We allow no stones or monuments on a lot until paid for in full.

We sell one, two, three and four graves to one person. One for \$15, two for \$40, and \$25 each for three or four graves. We do not require the purchaser of these graves to sign an agreement, as the occupied grave is always paid for at the time of burial and the others can easily be sold if not paid for.

Of course, selling lots on time is not as satisfactory as selling for cash, but Pine Grove Cemetery has been doing it for so long that the citizens of Lynn demand it, and as this is a city cemetery, it is almost impossible to change the custom.

We require prepayment for everything else in the cemetery. We have been running on a cash basis, except in the sale of lots, since 1907.

GEO. E. LANE,

Supt., Pine Grove Cemetery.

Lynn, Mass.

Following are our rules and contract for lots sold on time:

PINE GROVE CEMETERY

Rules Governing the Sale of Lots by Partial Payments.

The purchase of lots by partial payments shall be made in the following manner:

Twenty-five per cent. of the purchase price is to be paid down, and the balance is to be paid in monthly instalments of ten per cent.; the first instalment to be paid on the first day of the second month following the purchase of the lot, and thereafter on the first day of each following month until the whole amount shall have been paid: the last payment to comprise the balance due on the lot.

The initial payment of twenty-five per cent., entitles the purchaser to make one interment in a lot. In order that more interments may be made in that lot twenty-five per cent. must have been paid on the lot account for each additional interment.

The sale may be declared null and void by the Commissioners if the full purchase price is not paid within the above specified time; in which case the Commissioners will remove the bodies to the single grave section and sell the lot.

The cost of the transfer will be deducted from the amount paid on lot and the balance refunded.

AGREEMENT

Lynn, Mass.,191..

After having carefully read the above rules, I herewith pay on account of lot No. Ave. \$.....; and agree to pay each month ten per cent. of the purchase price, until the lot is paid for, with interest at six per cent. per annum.

Upon failure to make the above payments, I hereby give my consent to the removal of the body or bodies, therein buried to the single grave section, the cost of which is to be deducted from the amount paid.

Name

* * *

We very often have lot holders discontinue payments and find it very difficult to collect such accounts. We use whatever means we think best for each individual case as to collection. We do not permit other graves to be opened on lots where payments are past due; balance must be paid in full. We have never tested the law as to the removal of a body from a

lot on account of non-payments. We have never removed a body on this account.

Where credit is given, the account is closed up by note for monthly installments.

ELMWOOD CEMETERY.

Memphis, Tenn.

* * *

We sometimes contract lots or parts of lots that are not paid in full at the time of purchase, but if we do not think or have doubts that the payments will be made at the time agreed upon we steer them to a section that we sell any amount of ground they want, with the understanding that the ground is not bought or sold until it is paid for, giving a receipt for what is paid for. When the time comes around that the balance should be paid we send the party a statement with notice attached, that if we do not hear from them by a specified time we will conclude that they have changed their mind and do not want the unpaid for balance of the ground. Of course, they do not all respond, but we are nothing out. We have no trouble, by using care. We have never removed a body for not paying for lot, though, as I understand, the laws of Ohio allow the cemeteries or their controllers to make any rules for their own management so long as they do not conflict with any state law. I do not know of any Ohio law on the subject.

GEO. GOSSARD,

Supt., Washington Cemetery.

Washington C. H., O.

* * *

Our cemetery was in a disgraceful condition fifteen years ago. The man who laid out the grounds had become feeble and in poor health and was compelled to forego his usual care of the grounds. We bought what he had left and also additional grounds near by. We employed the best landscapers we could, Earnshaw & Punschon, of Cincinnati, who laid out our grounds and furnished us our records. We have adopted the rules and regulations almost entirely as they are in force at Crown Hill Cemetery, at Indianapolis, and I take pleasure in sending you a copy of our rules and regulations, as well as copy of our deed, in which we give perpetual care to the lot. We are reserving the right to the real estate; we grant permits only for burial, retaining the title, as it were, in our own name. We require the first payment to be sufficient to cover a single space. To illustrate: If we sell a lot for \$75 and there are five spaces upon it, we require \$15 cash and the remainder to be paid at such times as may be agreed upon. We have found the payment of lots upon the monthly plan very successful. One of the association notes will show how we make the reservation. It reads as follows:

\$..... Lebanon, Ind.,191..
.....after date,promise to pay to the order of Oak Hill Cemetery Association, of Lebanon, Indiana,

..... Dollars
And Attorney's Fees. Value received, without any relief whatever from Valuation or Appraisal Laws. The drawers and indorsers severally waive presentment for payment, protest, and notice of protest, and non-payment of this note, and all defenses on the ground of any extension of the time of its payment that may be given by the holder or holders, to them or either of them.

This note is given for purchase money on.....
.....Lot.....Section.....Oak Hill Cemetery of Lebanon, Indiana, and a lien upon said lot for purchase money is hereby declared, with six per cent. interest from date, and eight per cent. interest after maturity until paid.

Regulations Governing the Purchase of Lots—Persons desiring to acquire lots in the Cemetery, and not being able to pay the entire price thereof in cash, will be required to execute a satisfactory note or notes for the purchase price in such amounts and upon such time as may be agreed upon. But the payment of such money and the execution of such note or notes shall not confer any title whatsoever upon the purchaser to said lot or any part thereof until all of said notes shall have been fully paid. And upon failure to pay any of said notes in whole or in part, at maturity, the Cemetery Association shall have the right, at any time thereafter, to enter upon said lot and remove any body or bodies interred thereon, together with all monuments or marking stones, to other grounds reserved for single interments; and in such event, all moneys theretofore paid shall be deemed and taken as having been paid in consideration of the right to bury upon such lot and the occupancy thereof for the time being, and for the price of said grounds to which such body or bodies shall have been transferred, and to cover the cost of transferring such remains, monuments and marking stones; and thereafter such proposed purchaser shall have no right or equity whatever in the lands so conditionally purchased. And in no case shall a deed be executed for any lot until the same has been fully paid for. Said sale of above described lot is made subject to all rules and regulations now or hereafter governing Oak Hill Cemetery Association of Lebanon, Indiana.

Negotiable and payable at the First National Bank, Lebanon, Indiana.

Due191..

Witness Signature

.....
.....
.....

In the experience of fifteen years we have had only three persons to fail to comply with their agreement. We have been called upon frequently to extend notes, but in every case satisfactory adjustments have been made. In the three cases referred to, one of the parties removed from this locality to a distant state and asked us to take the unoccupied portion of the lot back. That we gladly did, as it had appreciated in value. In another case the payment was forfeited and we notified the parties that our agreement contracted with them was canceled.

We reserve the making of the deed until the full payment is made, so we have all of the lines in our own keeping. By keeping the title in our own name, by withholding the delivery of the deed, by accepting weekly, monthly or small installment payments, we have been able to sell an increased number of lots.

The poor people, in the past, had been going to the country cemetery, where lots are cheap. Since we have improved our grounds and made payments on lots weekly, monthly, etc., country people have been coming to us.

C. F. S. NEAL,

Secretary, Oak Hill Cemetery.

Evansville, Ind.

PARK DEVELOPMENT IN SALT LAKE CITY

Much active improvement work has been accomplished in the last few years in the parks of Salt Lake City, Utah, under the direction of Superintendent Nicholas Byhower.

The work was very actively started under Commissioner of Parks and Public Property George D. Keyser and has been actively pushed.

The following gives the acreage of the parks: Liberty Park, 95 acres; Pioneer Park, 10 acres; City Building Park, 10 acres; Canyon Road Park, 2 acres; Athletic Park, 10 acres; street parkings, 5 acres; City Creek Playgrounds, 3 acres. Total, 135 acres.

Liberty Park was Brigham Young's farm and nursery and only a part of it has been improved. The lake has been doubled in size, the new part being connected by rustic bridges. The greenhouses are enlarged, twelve acres of new lawn made, and the children's playground enlarged $2\frac{1}{2}$ acres.

Pioneer Park is located on the spot where the first Mormon pioneers camped. A swimming pool for girls and playgrounds have been constructed here.

Ensign Peak Park, containing 625 acres; Porley's Creek Park, 210 acres, and Jordan River Park, 20 acres, have also been improved.

The children are not being forgotten, for they have playgrounds at Liberty, Pioneer and City Creek parks.

A 22-mile boulevard is planned which will connect these parks and other points of interest.

Superintendent Byhower has been at Salt Lake fifteen years and knows the few plants and trees that will grow in this dry soil. It is only by tile irrigation at the roots of many trees and constant watering that they live. In the lawns water plugs

are placed every 100 feet, and with 50-foot hose and careful watering the lawns are kept green.

The snow-covered mountains in the dis-

tance, the wide streets, the tall Canadian and Carolina poplars, the green parking along the sidewalks, and pretty lawns are interesting features of the park scenery.



RUSTIC WORK AT OUTLET OF LAKE IN LIBERTY PARK.



LAKE IN LIBERTY PARK, SALT LAKE CITY BEFORE IMPROVEMENT, ENLARGEMENT AND CONSTRUCTION OF TWO ISLANDS.

OAK CLIFF CEMETERY ENTRANCE.

Our front cover illustration this month shows the very attractive entrance to Oak Cliff Cemetery, Derby, Conn., which is among the most modern and well-kept burial grounds in the state.

The drive gates, which form the main part of this entrance, are hung to massive piers, measuring $5\frac{1}{2}$ feet from water table to top of cap and 36 inches square at base, made of rough granite blocks with 1-inch hammered edges. Gates are a popular and imposing design, yet neither extremely ornamental or severely plain. They are 17 feet wide, constructed of $\frac{3}{4}$ -inch square pickets; hinge bars, 2×1 inch; front bars, $2 \times \frac{5}{8}$ inch, flat; cover bar, $1\frac{3}{4} \times \frac{1}{8}$ inch; horizontal rails, $2 \times \frac{5}{8}$ inch, channel; braces, $1\frac{1}{2} \times \frac{3}{8}$ inch, se-

curely riveted to pickets; center and corner scrolls, $1\frac{1}{2} \times \frac{1}{8}$ inch. Gates are fastened by means of bronze lock with brass handles, and throughout the idea of substantial work and neatness in design is combined with high-class workmanship and finish.

One walk gate 4 feet wide to match drive gates and four ornamental iron newel posts 8 inches square for walk gate and ends of fence were also furnished, and the contract included approximately 700 feet of fence 5 feet high, constructed of $\frac{3}{4}$ -inch square pickets with forged points, set square and spaced 5 inches on centers; horizontal rails, $2 \times \frac{5}{8}$ inch, Stewart's patent 3-rib channel; line posts, 1 inch square, with $\frac{3}{4}$ -inch

round braces, heavy collars and $\frac{1}{2}$ -inch set screws. Fence sets on concrete coping 10 inches wide, and line posts, which are placed at end of each 8-foot panel, extend 6 inches in coping; line post braces 4 inches and center supports 3 inches in coping.

This is another example of the substantial and attractive work turned out by The Stewart Iron Works Co., of Cincinnati, O., who designed, built and erected the fence and gates in 1912. It will be seen from the specifications that the Oak Cliff Cemetery Association appreciates not only the importance of installing iron entrance gates and fence that would add to the attractiveness of the cemetery, but an installation that would afford the necessary protection and give lasting, satisfactory service.

PARK NEWS.

The Civil Service Board of the West Chicago Park Commissioners will hold an examination April 30 at the Garfield Park Pavilion for gardeners, Class G, Grade II, Division Z. Pay, 28½¢ to 37½¢ per hour. Open to men between the ages of 21 and 50 years. Applications must be filed in the office of the board in Union Park before 5 p. m. of April 29, 1915. Application blanks may be obtained at the office of the board in Union Park or at the West Park Playgrounds. Fred G. Heuchling, Superintendent of Employment, is in charge of the matter, and will give any further information.

Owing to the depleted condition of its treasury the Park Board of Joplin, Mo., decided recently that it would not employ a park superintendent to succeed the late Joel T. Livingston. Supervisory work, instead of being in charge of a superintendent, will be directed by three members of the board, who will serve without pay.

The Aboricultural Association of Southern California held its tenth semi-annual convention in San Diego, Cal., March 11 and 12, 1915, at the Panama-California Exposition. The membership of the association is composed of mayors, park superintendents, county and city foresters, landscape gardeners, nurserymen and laymen interested in town and country beautification. An excellent program was profitably discussed and the beautiful grounds of the exposition afforded every opportunity for studying the possibilities of creating charming landscape effects in that favored climate. J. M. Paige, park superintendent, Pomona, was re-elected president; Jacob Albrecht, Pasadena, vice-president, and W. B. Hadley, Redlands, secretary-treasurer. The next meeting will be held at Redlands September 15, 1915. C. M. Loring, known at home as the "Father of the Minneapolis Park System," whose winter residence is at Riverside, Cal., is an active member of this association.

New Parks and Improvements.

The Council of Youngstown, Ohio, has authorized a bond issue of \$35,000, and Superintendent of Parks Lionel Evans plans to make extensive improvements in the city parks and playgrounds. At Crandall Park a lake and bath house will be built, also tennis courts and walks and drives. At South Side Park a bath house will be erected. Further development of the Hall's Hollow Park on the West Side is planned. Considerable improvement at the Walnut street grounds is included and a playground will be erected here.

As a result of discussion of plans for additional city parks in Manitowoc, Wis., William Bock has offered to sell a tract of thirty-seven acres of land south of the city, suitable for park needs. The property extends from the Lake Shore road to Lake Michigan, is wooded and contains gravel beds. Silver Creek runs through the land and the property is ideal for the city's needs.

Humboldt, Garfield and Douglas parks, Chicago, are to have farms this summer, according to President William F. Grower, of the West Park Board. Lots 100 feet square will be set aside for raising vegetables. Gardeners at the different parks will have supervision of the farms. It is an experiment to show the public what can be raised.

Mrs. John C. Kimmel has given a large tract of land in the west part of Midlothian, Tex., to be used as a public park. The citizens have named it Kimmel Park.

A. A. C. S. CONVENTION IN TWIN CITIES.

The annual convention of the Association of American Cemetery Superintendents will be held in the Twin Cities, August 24 to 28. The first three days will be given up to meetings and sightseeing in Minneapolis and the fourth day to St. Paul.

I do not believe the committee has made definite arrangements on the program, ex-

cept that the headquarters will be at the West Hotel. President Thomas Wallis, Rosehill Cemetery, Chicago, will be pleased to receive any suggestions from members in reference to papers. These will have to be in by July 1. BELLETT LAWSON, JR.,

Harry Adams, of San Antonio, general landscape gardener of the Sunset Central lines, is assisting the ladies of the Civic League of Bryan, Tex., in the work of beautifying the Civic League Park which adjoins the railroad station.

South Lincoln Park, of Greeley, Colo., will be greatly improved this summer by the building of cement gutters and curbs.

Complete surveys for the proposed Denver National Park, in the Mt. Evans region, will be commenced at once by the Department of the Interior, at a total cost to the department of more than \$20,000, if the city commissioners will contribute \$10,000 toward that cost from the mountain parks fund, or any other fund at their disposition. The proposed park will consist of an area of 128,000 acres surrounding, and including Mt. Evans. The center of this national park will be within thirty miles of Denver and it will be linked up by a series of fine roads with the Denver mountain park system and the Rocky Mountain National park in the Estes Park region.

cept that the headquarters will be at the West Hotel. President Thomas Wallis, Rosehill Cemetery, Chicago, will be pleased to receive any suggestions from members in reference to papers. These will have to be in by July 1. BELLETT LAWSON, JR.,

River Grove, Ill. Secretary.

THE OBITUARY RECORD.

John Hopkins Shepard, a prominent landscape architect, died February 1 at his home in Syracuse, N. Y. Death was due to heart disease. Mr. Shepard had been ailing for nearly five years and had been confined to his home since last summer. Mr. Shepard was born in Connecticut, but had been a resident of this city for a num-

ber of years. He drew the plans for Morningside Cemetery, this city; Riverside Cemetery, Rochester, N. Y., and Oakwoods Cemetery, Chicago, and was at one time superintendent of this cemetery. He leaves two sons, Charles, of this city, and Stanley Shepard, of Springfield, Mass., and one daughter.

CEMETERY NOTES

The City Council and the trustees of Woodland Cemetery, Van Wert, Ohio, are discussing the question of prohibiting Sunday burials.

Members of the new Country Club of New Orleans, La., are opposing the establishment of a cemetery by the Gulf Realty Co. in Metairie road, opposite the entrance to the Country Club.

The Ladies' Cemetery Association, of St. Charles, Ill., elected Mrs. W. H. Bishop president and Mrs. McCluskey secretary at a recent meeting.

Members of the Cemetery Commission of Racine, Wis., re-elected Andrew Hanson president and H. R. Ticknor secretary at a recent meeting. They also inspected the plans and specifications for the new entrance to Mound Cemetery at the southwest corner of the cemetery. The plans call for modern iron gates, with concrete posts on each side, nine feet high. The roadway will be paved with macadam and have a curve to the north, so as to connect with the old driveway leading across the Sylvan Dell lake.

Forest Mills Cemetery Co., of Delaware, was recently incorporated by W. C. Arnold, of Philadelphia, Pa., with a capital stock of \$500,000.

The Central Cemetery Association, of Chicago, announces that it has its land bought and improved at a total cost of \$240,000, and that it is all paid for except a debt of \$6,000. There is still due the company \$175,000 on notes given for stock. Of this money \$150,000 will be set aside as a maintenance fund. The capital stock is \$300,000. Land in the cemetery is sold for \$1.50 a square foot and between 11,000 and 12,000 feet have been sold and partly paid for.

William Allen, superintendent of Homewood Cemetery, Pittsburgh, recently had the misfortune to fall and break two bones in his ankle, and was confined to the house for some time with his leg in a cast.

Members of Mt. Hope Cemetery Commission, Rochester, N. Y., recently held a conference over the question of abolishing an old rule that automobiles were excluded from the cemetery. After the discussion it was decided to allow the old rule to stand, and in the future, as in the past, automobiles will not be allowed to enter the gates of the cemetery. The report of the city treasurer of Rochester, who is also treasurer of Mount Hope Cemetery, for the year ending December 31, 1914, sets forth the following statistics: General fund, \$7,247.66; repair and sinking fund, \$83,795.52; perpetual contracts, \$127,772.43. Total receipts for the year: General fund, \$49,427.28; repair and sinking fund, \$7,624.29; perpetual contracts, 11,091.68, amounting to \$68,143.25. Total expenditures for the year: General fund, \$51,632.12; repair and sinking fund (interest on general fund), \$2,859.07; perpetual contracts (interest on general fund), \$4,513.59, amounting to \$59,229.78. Excess of receipts over expenditures, \$8,913.47. Balance December 31, 1914, \$218,815.61.

D. M. Bickel and E. C. Best, of Elkhart, Ind., are organizing a stock company to purchase a fifty-acre tract about a mile south of this city for cemetery purposes. The organization is called the Sunnyside Cemetery Association. Stock is sold at \$100 a share, the capital stock being \$25,000. The cemetery will be conducted on the perpetual care plan. A rough estimate of the number of graves that could be dug in the tract is placed at 48,000. The total is indicated by counting 160 lots to the acre and six graves to the lot.

At the annual meeting of the stockholders and trustees of the Spring Grove Cemetery Association, of Batavia, Wis., G. E. Barker was re-elected president and E. D. Fiske secretary.

Will Sheen was elected president and Isaac Griffith secretary at a recent meeting of the Paris Corners Cemetery Association, of Kenosha, Wis.

New Cemeteries and Improvements.

Provision has been made in the general park and boulevard budget for the maintenance and improvement of Oak Grove Cemetery, Kansas City, Kan. The ground will be terraced and new driveways constructed.

Mt. Holly Cemetery, of Little Rock, Ark., was greatly improved recently under the direction of W. W. Wagner.

At a recent meeting of the Linwood Cemetery Association, Pana, Ill., it was decided to plant shrubbery and to employ a landscape gardener to plan the planting of it.

The Biloxi Chapter, United Daughters of the Confederacy, held a very successful "Tag Day" in Biloxi, Miss., a short time ago, from which they derived a large sum of money to be used in the upkeep of the cemetery of the Beauvoir Soldiers' Home.

Calvary Cemetery Association, of Galveston, Tex., is planning a membership campaign by which it hopes to add 500 new names to its rolls. The object is to further beautify Calvary Cemetery.

Frank Crocker, architect, has made plans for a half-timbered stucco superintendent's lodge at Mt. Auburn Cemetery, St. Joseph, Mo., to cost about \$5,000. The plans include a concrete receiving vault with bronze doors.

The American Park Builders, of Chicago, have begun work on the new cemetery at Matteson, Ill., which will serve the entire south side of Chicago. The site is one of great natural beauty and bids fair to be developed into one of the finest cemeteries in the state.

A reorganization of the Board of Trustees of the Hobart Cemetery Association, Hobart, Okla., and outline of a plan to improve the grounds, was made at a recent meeting. For the purpose of utilizing the water from the lake, constructed some time ago, a committee composed of D. S. Walfinger and J. L. Burke was appointed to investigate the cost of installing a water system.

A number of ladies of Lawton, Okla., have petitioned the city commissioners to build an iron fence around Lawton Cemetery.

Eli Clayton, backed by a Denver syndicate, has purchased from Clyde Lance 400 acres of land just west of Roswell, Colo.,

which is to be used for a cemetery site. The purchase price is said to be \$15,000.

A meeting to organize a cemetery association to promote the new cemetery at Rantoul, Ill., was held at the county court room a short time ago.

At a meeting of the directors of the Glendale Cemetery Association, Monmouth, Ill., held recently, it was decided to re-survey and replat part of the cemetery grounds.

The Cemetery Association at Ross, N. D., is planning to have a vault erected in the cemetery and have other improvements made.

The Clearmont Cemetery Association, Maryville, Mo., is making preparations for a general improvement of the cemetery grounds.

Bids are being received by the cemetery committee on improvements to be made in Hazlewood Cemetery, Springfield, Mo.

At a public meeting held in the Circuit Court room at Robinson, Ill., recently, a resolution was adopted to proceed with the establishment of a new cemetery by arranging for purchase of the Woodworth tract, east of the city. A committee was appointed to confer with the officers of the association incorporated a few years ago and determine if it is feasible for that organization to take up the present project; if not, then to arrange for the organization of a new society under the laws of the state.

Farmers belonging to Cathedral parish recently assisted in the improvement work being done in Green Mount Cemetery, Belleville, Ill. Four hundred and fifty feet of road were built in two days. Concrete gutters will be made this spring and a number of trees will be planted.

Mishawaka, Ind., is reported to be in need of a new cemetery and a number of prominent citizens are trying to establish a cemetery in the eastern part of the city.

An effort is being made to have Congress appropriate a sum of money to preserve Huron Cemetery, Kansas City, Kan. This is the only exclusively Indian cemetery in the country.

A site for the new Cedar Rapids (Ia.) crematory has been donated to the crematory association by the Bohemian Cemetery of that city.

BRIEF BUSINESS ANNOUNCEMENTS.

Theodore Strawn, of DeLand, Fla., has contracted for what will be a very unique and at the same time very efficient irrigation plant on what he calls his Island Grove at DeLeon Springs. The distribution of water in this plant is to be through a new type of sprinkler known as the Turbo-Irrigator, which when placed on stand pipes 100 feet distant from each other and extending up through trees will thoroughly and evenly distribute water in

the form of fine rain over the entire surface. The stand pipes, which on account of the trees being very large, average over 20 feet in height, will be supplied with water under pressure by an underground pipe system forced direct by a two-stage centrifugal pump operated by an oil engine situated at a nearby lake. The large area covered by these sprinklers, which are manufactured by J. P. Campbell, of Jacksonville, Fla., greatly reduces the cost of

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The economy of these surfaces also soon became evident. And so in 1912 more Tarviated areas were laid. In 1913 there were further extensions, and over 6,000 gallons more were used in 1914.

After four years' experience, Mr. T. H. Little, Assistant Secretary of the Mt. Hope Cemetery Association, wrote:

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Tarvia is a dense, tough coal tar product of great bonding power.

It makes roads automobile-proof, heavy-load-proof, water-proof and frost-proof.

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irrigation, especially for orchard use, and as the cost of a modern system of irrigation of this kind has heretofore been almost prohibitive, growers of Florida are awaiting the completion and testing out of this plant with great interest.

The small advertisement signed "Cemetery," on another page, calls attention to a cemetery improvement service offered. If a cemetery needs special improvement or an addition, spring is an opportune time to start it. They also offer a cemetery development service, where there is room for a new modern cemetery.

Purley Douglass Bailey, forester, of Cazenovia, N. Y., formerly of Denver, Colo., member of the Phi Gamma Delta Fraternity, son of Professor G. D. Bailey, of Cazenovia, N. Y., has been missing since March 8, when he went to Syracuse for a treatment for nervous trouble. It is feared that he may have had a lapse of memory, from which he has sometimes suffered. He is 5 feet 6 inches tall, complexion deeply tanned, brown hair and brown eyes, which recently have frequently had a fixed, staring expression. He wore a gray suit, mixed gray and black shaggy overcoat with brown fur collar, a gray hat of the prevailing style. Any information concerning young man, please wire to Chief of Police M. L. Cadin, Syracuse, N. Y., or Professor Geo. D. Bailey, Cazenovia, N. Y. If found, please detain him.

A new device for the sustaining of foliage or trellis work has recently been developed in the Spring Steel Post System. By the use of these steel posts, which can be regarded as practically permanent, handsome effects can be obtained without the blocking out of the view that is occasioned in many instances by the erection of concrete or other stone columns. Being slight in construction, yet strong and capable of sustaining heavy-weight vines, which can be readily trailed up them. In addition to such uses these spring steel posts are being used for fencing, and one form of them, made by the Carbo Steel Post Co., of Chicago, is of the non-climbable feature, shutting out intruders and giving privacy. These posts are constructed under patented designs which set them so firmly into the ground that ordinary strains do not loosen them. It is claimed for these posts that they are rot-proof, vermin-proof, rust-proof and lightning-proof. In this respect they are of peculiar advantage for cemetery uses, as they serve to act as conductors of lightning, which might otherwise destroy valuable monuments or mausoleums. The subject of the use of such posts in cemeteries is one of considerable interest and much interesting information has been compiled regarding them by C. L. Michod, president of the Carbo Steel Post Co., 1001 Rand-McNally Bldg., Chicago, who will gladly furnish data to any cemetery superintendent or association.

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The Walk-type line is partially described below.

Model	Weight on Drive Roller	Width of Cut	Capacity Per Hour	Price
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100 pages, capacity 2,300 names	\$ 5.00
220 " " " " " 5,000 names	10.75

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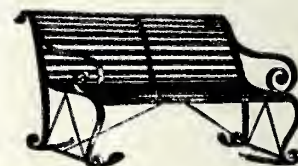
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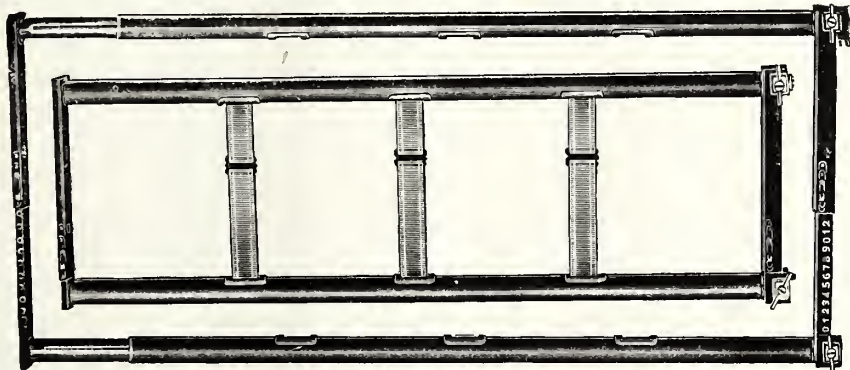
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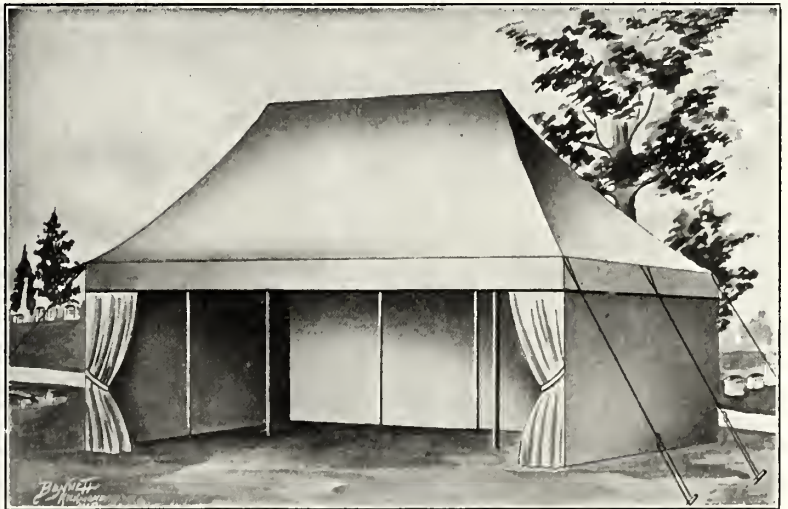
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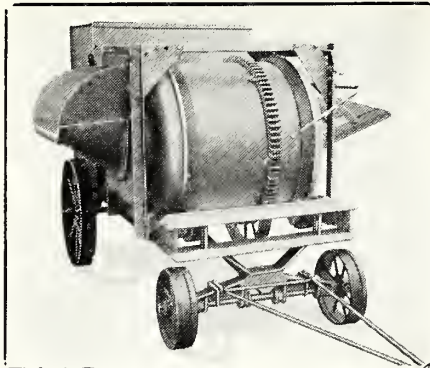


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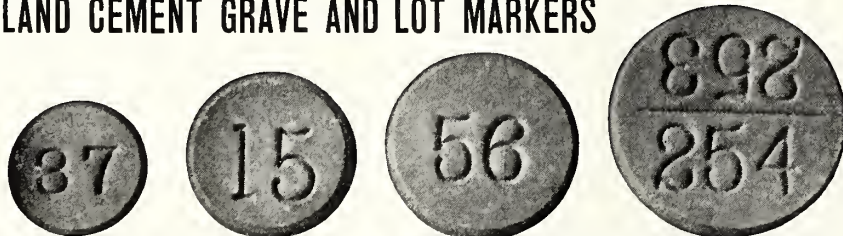
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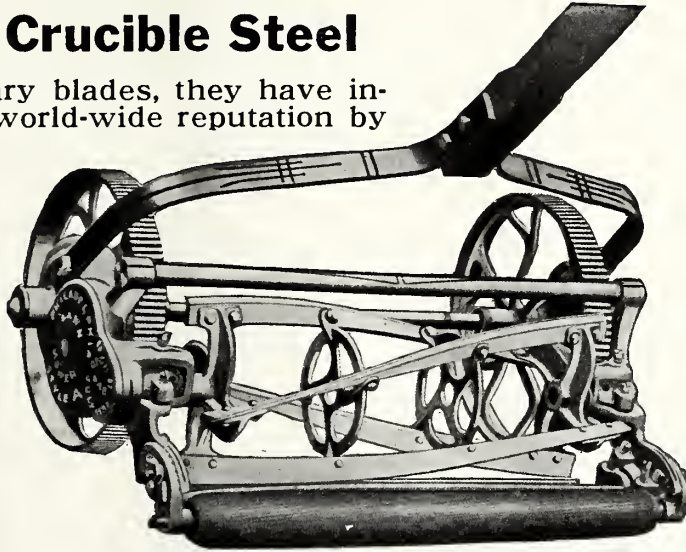
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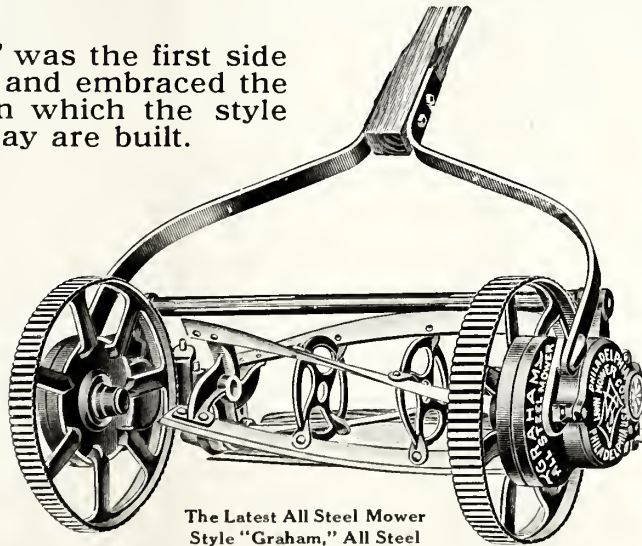
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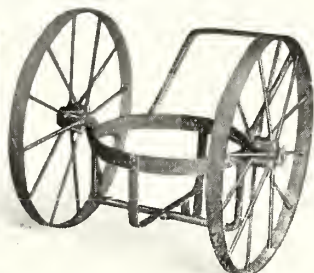
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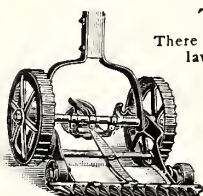
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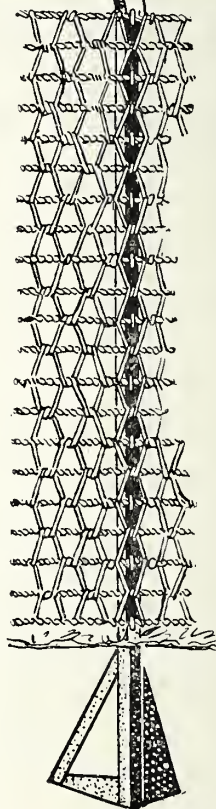


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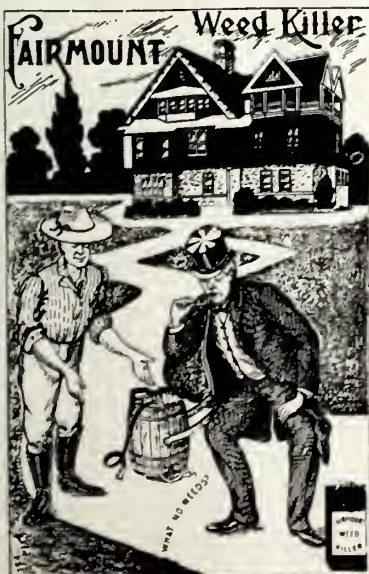
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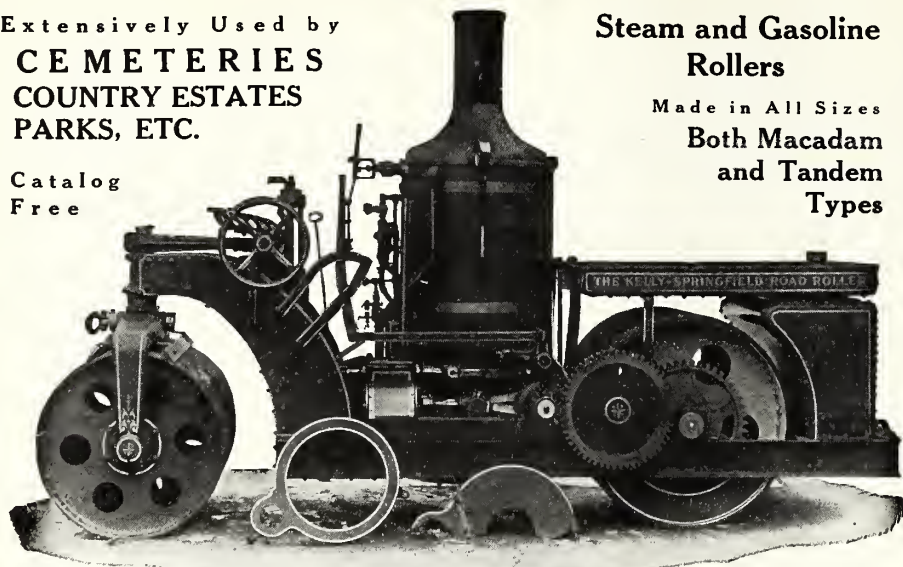
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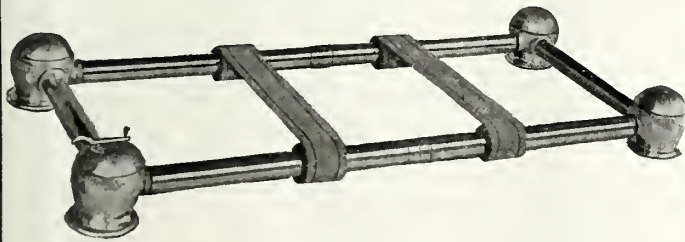
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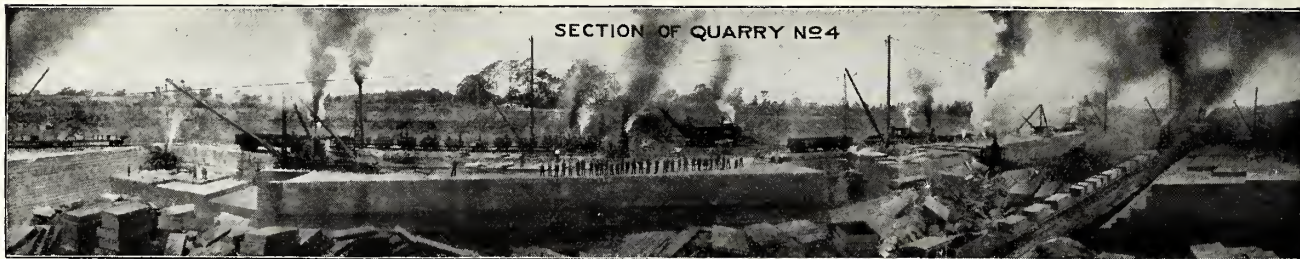


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furnish trees and shrubs in large sizes thus completing the landscape architect's plan in a few months. Write us about your requirements—we are here to serve.

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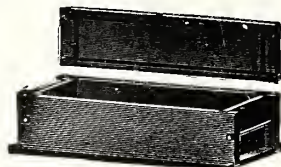
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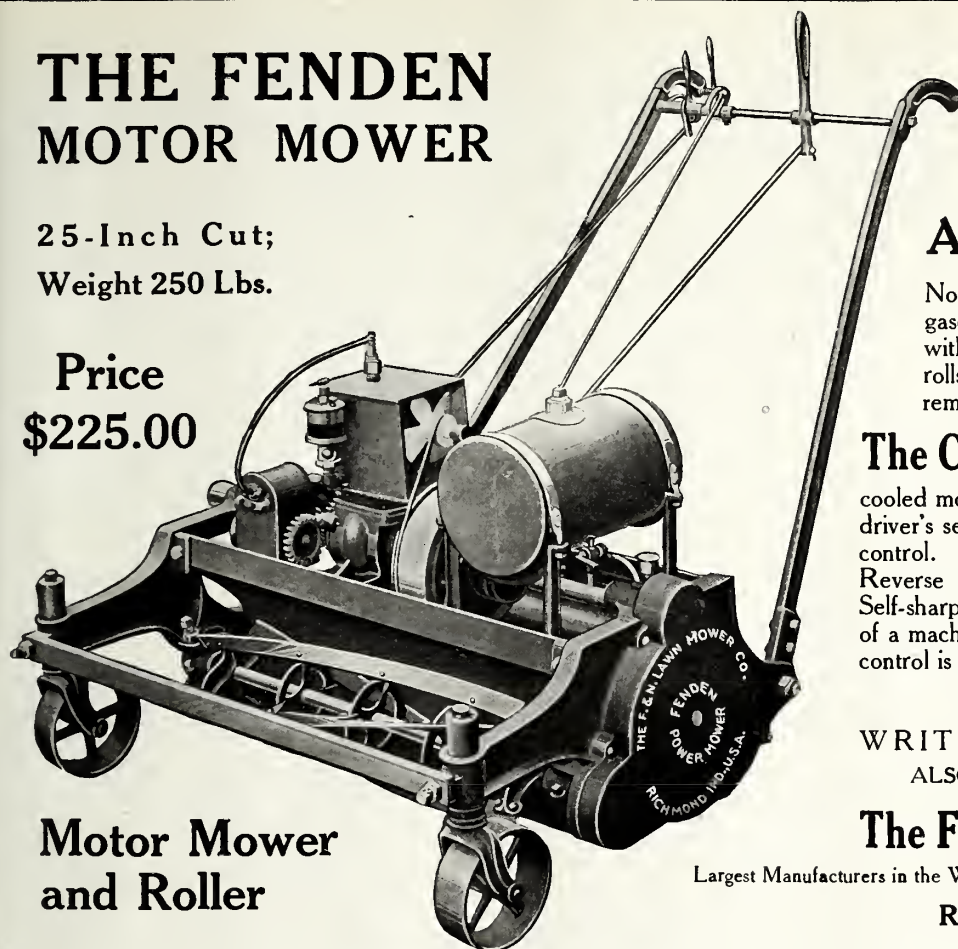
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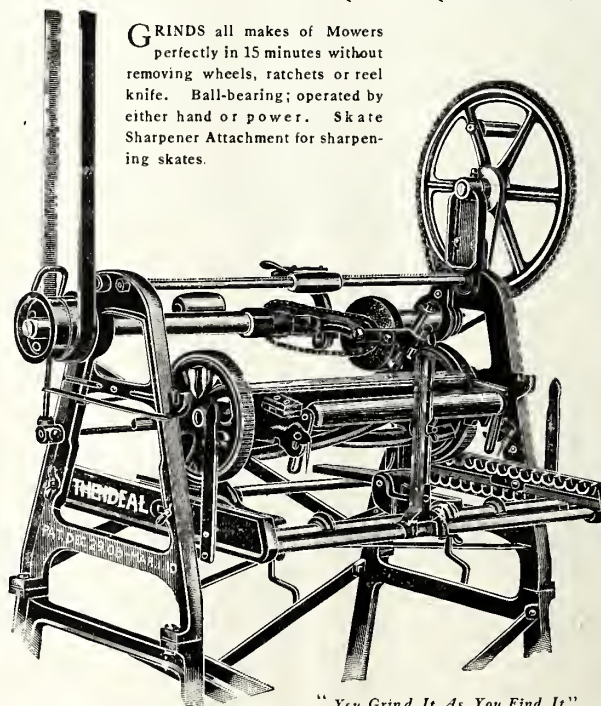
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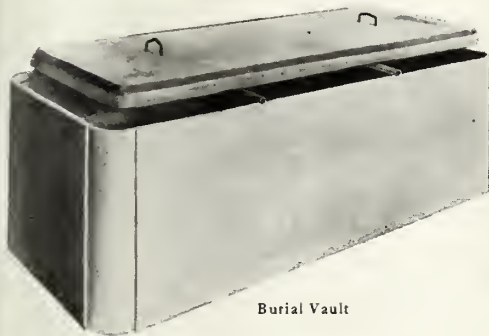
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The Ideal Combination Mower and Roller, a larger machine with 38-inch cut, \$400.00.

Let us tell you more about what the Ideal Power Lawn Mower will do for your lawn.

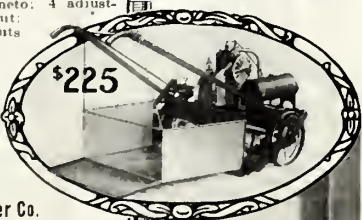
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Junior Power Lawn Mower

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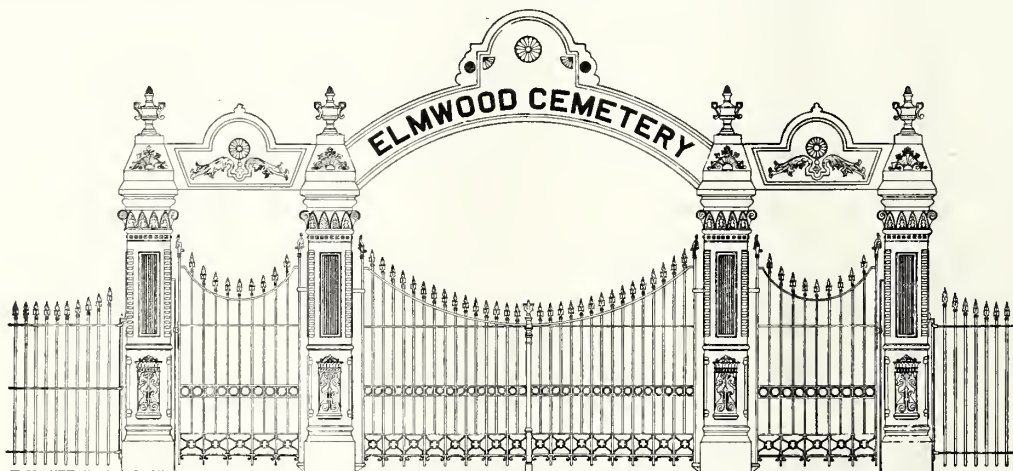
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Vol. XXV., No. 3

MAY, 1915

SPECIAL FEATURES IN THIS ISSUE

New England's Modern Small Town Cemeteries—Balboa Park and San Diego Exposition—City and County Park Work in Milwaukee—American Academy of Arborists Organized—Organizing and Developing a Modern Cemetery—Getting Rid of Moles—Selling Cemetery Lots on Credit—Dust Laying on Brick Roads



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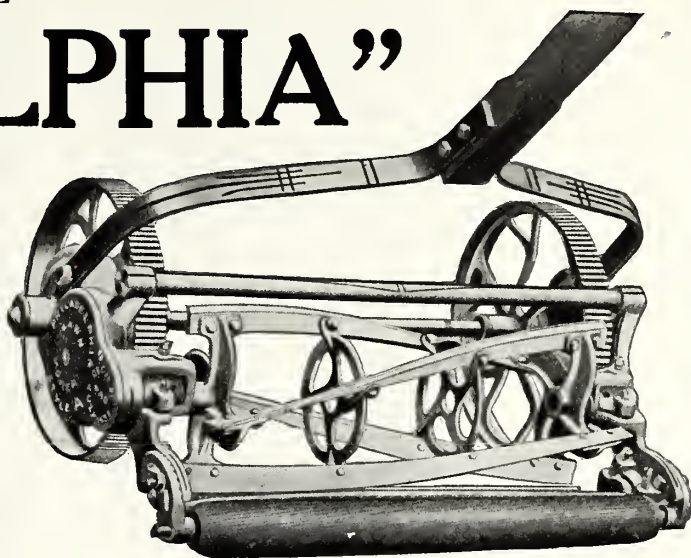
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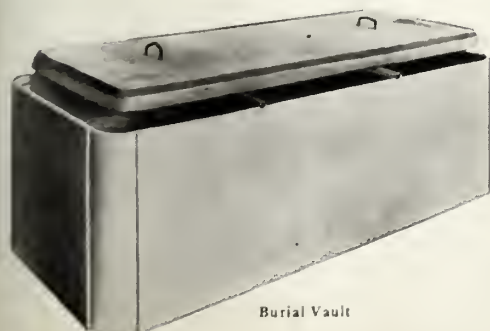
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MAY, 1915

EDITORIAL

VOL. XXV No. 3

Legal Decision on Bequest for Care of Lot

The court recently decided in Philadelphia, in the case of bequests of the Palethorp estate, that a bequest of \$150,000 in trust for the care and maintenance of testator's family burial lot, and of the tombs thereon erected, and for the support of "some proper person to be . . . selected and employed by my trustees to attend to the care and oversight of said lot, and show people where it is, and perform such other duties in relation thereto as my trustees may prescribe," is an unlawful perpetuity and void, in so far as it will produce more income than could reasonably be used for the lawful purpose of maintaining the burial lot and tombs; only so much thereof will be awarded to the trustee as will be needed to produce funds for carrying out the lawful purposes of the bequest, and the remainder will fall into the residue.

The auditing judge (Dallett, P. J.) in his adjudication says:

"The testator died May 20, 1913, leaving a will dated January 3, 1913, whereby, after directing the payment of his debts and funeral expenses, and the erection of a tomb in his family lot in South Laurel Hill Cemetery, similar to the one erected for his brother, he provided as follows:

"Third: I give and bequeath unto my Trustees by this my

Will appointed, One Hundred and Fifty Thousand Dollars to constitute a fund to be kept separate and apart, in Trust, nevertheless, to invest, reinvest and keep the same invested under the powers and authorities by this my Will upon my said Trustees conferred, and to collect and receive the income, issues, dividends, and profits thereof, and after paying out said income all lawful costs, charges, taxes, commissions and expenses incident to the care and management of said Trust, then to pay, expend, use and apply the net income therefrom when and as the same may be received, for the care and maintenance of the Palethorp family lot which belongs to the estate of my late father and mother, situated in South Laurel Hill Cemetery, Philadelphia, and for the care and maintenance and renewal of any tombs and copings or rebuilding that may be required in the judgment of my Trustees, and for flowers to be placed and maintained there, and for the support and maintenance of some proper person to be from time to time selected and employed by my Trustees to attend to the care and oversight of said lot, and show people where it is, and perform such further duties in relation thereto as my said Trustees may prescribe from time to time in the exercise of their best judgment."

Beginning State Park Work in Connecticut

"State Parks for Connecticut," the first annual report of the Connecticut State Park Commission, is a most interesting document to those who are beginning the work of acquiring state parks. It gives the text of the state park law and an interesting report of Field Secretary Albert M. Turner, who has visited and reported on most of the tracts available for state parks. The first appropriations for the work included \$5,000 for expenses of the commission and \$20,000 for the purchase of land. The section of the law describing the powers of the commission reads as follows:

Said commission shall have power to acquire, maintain, and make available to the public open spaces for recreation, and to act with local authorities. Said commission may take in the name of the state and for the benefit of the public, by purchase, gift, or devise, lands and rights in land for public open spaces, or take bonds for the conveyance thereof; and may preserve and care for such public reservations, and in the discretion of the commission and upon such terms as it may approve, such other open spaces within this state as may be entrusted, given, or devised, to the state by the United States or by cities, towns, corporations, or individuals for the purposes of public recreation, or for the preservation of natural beauty or historic association, provided said commission shall not take or contract to take by purchase any land or other property for an amount or amounts beyond such sum or sums as shall have been appropriated or contributed therefor.

The State Controller is authorized to hold in trust, exempt from taxation, any gifts or bequests of land or money for state park use under the direction of the commission, and any town or other municipality is authorized to transfer open spaces to the

state commission. Edward E. Bradley, of New Haven, is president of the commission, and Edward H. Wilkins, of Middletown, secretary.

The commission's field secretary made a tour of the entire Connecticut shore, from the Rhode Island line on the east to the New York line on the west. The commission felt that knowledge of the coast line of the state was of primary importance, as the ownership of shore lands is so rapidly changing and prices are advancing. After finishing that work the inland sections of the state received attention, the mountains, lakes and rivers being noted and places of especial scenic beauty visited. Much information was thereby secured and is shown to quite an extent in the report of the field secretary. As a result of the decision of the commission not to attempt any purchase until the whole situation was before it, and as the work of general investigation has been but recently completed, the only purchase to the date of this report is one piece of seashore and meadow land embracing five acres, more or less, in the town of Westport, costing \$2,489. There are a number of desirable sites inland and on the shores of Long Island Sound which the commission feels should be acquired for the use of the people of the state, whether through purchase or by gift of generous and broad-minded citizens. Several such sites have been visited by the commission as a body or by individual members of it.

Editorial Notes

Suggestive plans have been prepared recently by the landscape engineer of the New York State College of Forestry at Syracuse University for a fifteen-acre public park in the city of Amsterdam, N. Y. The location of the grounds for the park is along the Mohawk River, on the historical homestead of Sir Guy Johnson, famous in Revolutionary times. The property is located within ten minutes' walk from the center of the city. Aside

from the historical value of the land, the natural topographic features are such as to make the land additionally valuable for park development. The plan calls for decidedly useful park features, such as tennis courts, an athletic field, a children's playground, a public bath house, and a large artificial water area. There are many other towns and cities along the Mohawk River that have equally good opportunities for the development of public shade tree areas and recreation grounds.

NEW ENGLAND MODERN VILLAGE CEMETERIES

The historic old burial grounds of New England are known throughout the country, but it is not so well known that some of the finest specimens of the modern lawn cemeteries in the country are to be found among the small cemeteries of New England that have been developed along modern lines.

A. Leavitt has made this cemetery an object of pride to the citizens.

This cemetery is about six miles east of Boston and contains about sixty acres of land. It nestles in the hills, surrounded by parks, and is an ideal spot for a cemetery. Nature has done much to make it what it is. It was dedicated in 1856, then

through what they call the sunken garden, which will be very attractive when the garden is completed. They are now laying out another section of land near what is called the Circle, which will be one of the best sections in the cemetery. They also developed last year a section of lots around the sunken garden which are very



ON THE BANKS OF THE BROOK, WYOMING CEMETERY, MELROSE, MASS.



THE POND AND REAR OF OFFICE, WYOMING CEMETERY, MELROSE, MASS.

Nowhere can there be found more beautiful natural scenery or more carefully developed landscape effects than in some of the park burial grounds of some of the New England villages.

The three cemeteries of which we show views this month present many excellent examples of modern management, careful development and beautiful landscape.

Wyoming Cemetery, Melrose, Mass., has some natural beauty spots that are among the finest scenic effects in that locality, and the careful attention of Superintendent R.

containing only thirty acres. Since then thirty acres more have been added. The old village cemetery, where the high school now stands, has since been moved to this cemetery. It has hills and dales, highlands and lowlands, just enough to give it a charming, varied landscape. There are plenty of natural trees, including elm, oak, maple and birch, and evergreens, such as pine, spruce and cedar.

Two years ago Superintendent Leavitt built a rustic bridge, at a cost of about \$200, across the little brook that flows

beautiful and will be still more so when the garden is finished.

They expect to build a rest house this season. This cemetery has always been self-sustaining and has turned into the city above running expenses several hundred dollars each year.

There is a perpetual care fund of \$40,000 that is growing fast, as all lots are sold now under perpetual care. About one-half of the grounds are laid out. All the work is done by the cemetery authorities; no outsiders are allowed to do work in the cemetery.

Last year they enlarged the pond about one-quarter of its original size and cleaned out the remaining portion. They expect to enlarge the single grave section this season, probably about one-third.

Fountain Hill Cemetery, Deep River, Conn., has made interesting improvements recently, among the finest of which is the Wooster Memorial Chapel, recently dedicated. The chapel is located on the gently sloping elevation at the left of the main entrance, and so perfectly does it harmonize with its surroundings that it gives the impression at once as being a part of the natural ledge upon which it stands.

The building, which is of Gothic architecture, is of native granite, every stone, something over 3,000, having been quarried and cut by Hugh Campbell, a local stonecutter, in the quarry adjoining the cemetery grounds. The trimmings are of Ohio limestone, with slate roofing and copper trimmings.



THE SUNKEN GARDEN; NOT YET COMPLETED; WYOMING CEMETERY, MELROSE, MASS.



WATER VIEW IN FOUNTAIN HILL CEMETERY, DEEP RIVER, CONN.



WOOSTER MEMORIAL CHAPEL, FOUNTAIN HILL CEMETERY, DEEP RIVER, CONN.

The location of the building is on a natural ledge. This made excavating extremely difficult and necessitated the use of much dynamite, but under the direction of John Holbrook, of Westbrook, the entire work was done without injury to nearby property. Mr. Holbrook was also the contractor for the laying of all the stonework in connection with the building.

The interior finish is unique and particularly suitable for a building of this nature. The walls are finished with tapestry brick, the panel oak ceiling, together with the benches and other woodwork, having what is known as the old English finish.

The main auditorium has a seating capacity of about 100. At the left of the square vestibule is a small reception or waiting room, while at the right is a lavatory and toilet room. The furnishings in both rooms are rich and in keeping with the rest of the building. Even the electric light fixtures were specially designed by Handel & Co., of Meriden. An indirect lighting system in the vestibule gives a most pleasing effect. The flooring throughout is of tile.

The first floor complete, with the exception of the toilet room, is covered with small terra-cotta tile laid in herringbone

design. The floor of the toilet room is of white tile laid in the same manner. The wainscoting, door and window casings of the toilet room are of glazed tile, the walls and door of same being finished in white enamel with "Sanitary" toilet and lavatory and nicked fixtures.

The vestibule is paneled throughout, both ceiling and sides, with oak, and finished in a dull waxed finish, having an art glass window in the ceiling. The balance of the woodwork in the main chapel and rest-room are finished in a like manner.

The main chapel has solid sheathed ceiling with oak beams and trusses. The window casings are of the same material and are of Gothic design to harmonize. The walls are of tapestry brick laid in mortar colored to match. The entire woodwork, seats and all, are of the Gothic design and everything is made to harmonize and carry out this effect.

The electric lighting fixtures are special and match the general design. Leather covered, double-action doors are used between the vestibule and nave. The furniture in the restroom is of fumed oak, with a Wilton velvet rug on the floor.

The lowering device is of the most improved type of National, lowering directly

into the receiving vault below. In the receiving vault there are steel racks for twelve cases, with plenty of room to move about and work. There is a door opening out onto the outside steps from the receiving vault, also another outside door which opens from the passageway which leads to the furnace room, which is situated just back of the receiving vault.

The furnace is a large affair which burns cordwood, and the building can thus be very quickly heated, as the use to which the building is put does not require a steady coal fire all the time. In the furnace room there is also a porcelain sink and all modern conveniences for employees.

Isaac Allen, Jr., of Hartford, was the architect of the building, and Wise & Upson, of Hartford, were the contractors.

The Fountain Hill Cemetery Association was organized as a joint stock company June 17, 1851. The present grounds include some forty-eight acres and for diversity of surface and capability of adornment are unequaled in the state. Its soft and graceful slopes, broken here and there with picturesque masses of rock, and the frequent glimpses of diversified scenery unite in making a scene of summer or autumnal beauty rarely found in a cemetery. The beauty of the grounds has attracted



UNIQUE BOULDER ENTRANCE WITH MAJESTIC OLD TREE, BLUE HILL CEMETERY, SOUTH BRAINTREE, MASS.



BOULDER FOUNTAIN, BLUE HILL CEMETERY, SOUTH BRAINTREE, MASS.

not a few residents of neighboring towns who have bought family plots, and in several instances have erected costly monuments.

The care and general improvements of the grounds are under the personal supervision of William G. LaPlace, the superintendent. The president of the association is Joseph B. Banning.

Blue Hill Cemetery, South Braintree, Mass., has some unique features, that are impressed first upon the visitor by the striking boulder entrance and fountain and the magnificent old oak that stands nearby.

The boulder fountain is built of field and red stone and the stonework encloses a pansy bed at the rear. It cost about \$80. The grounds are piped and supplied with water from the cemetery's own pumping system, which cost about \$300. The grounds were recently resurveyed, the old plans discarded and new ones issued. A new section of about one acre has been developed and pipes laid in some drives to drain low places.

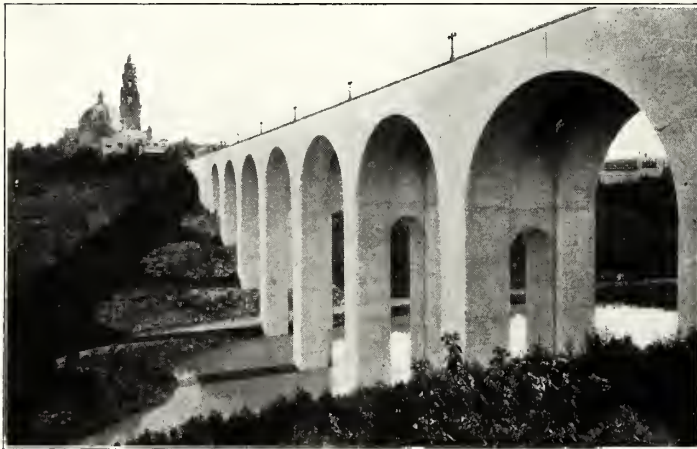
Much lawn work has been done and a large mound built near the entrance, with a rockery and a sprayer. The filling of the

hole where the mound now is and building of the mound required nearly 2,000 loads of material.

A perpetual care fund has been established and at present about twenty-three lots are in such care, the amount at interest being about \$3,000. The soil is very good, being loam, gravel and sand and never any rocks. The new section under development has many evergreen trees of natural growth.

The cemetery contains twenty acres, of which eight are in use. A. A. Drollett is president and superintendent.

BALBOA PARK AND SAN DIEGO EXPOSITION



PUENTE CABRILLO; CONCRETE BRIDGE 1,000 FEET LONG, BOTANICAL BUILDING, SAN DIEGO EXPOSITION.

San Diego, Cal., is unique in many respects, but in none more so than in her parks. Forty years ago, just one hundred years after the first mission was founded on this coast, the trustees of the rambling village set apart 1,400 acres of pueblo land for park purposes, all of which has been faithfully held intact and is now entirely surrounded by the city. In 1902 Samuel Parsons, Jr., of New York, prepared a plan for the improvement of ten acres of land at the personal solicitation of George W. Marston, a leading citizen, who was also instrumental in interesting Mrs. M. B. Coulston, formerly one of the editors of *Garden and Forest*, who gave much valuable advice. More work was done in 1912 than ever before, when active preparations began for the Panama-California Exposition and a million-dollar bond issue augmented the park funds.

According to scientists, the mesas and canyons hereabouts are the result of erosion caused by the receding waters of the Pacific, which covered the land not very many years ago. Five large canyons, or arroyos, extend the entire length of the park and numerous smaller ones intersect, giving a diversified contour with an approximate altitude of 300 feet above the bay and ocean at the city front. Nature has had a struggle to cover these stony

mesas and slopes with a scrubby growth of sagebrush, mesquite, cactus, etc. Hardpan and unbaked adobe abound. Drilling and dynamiting with a liberal addition of fresh soil is necessary for every tree and shrub planted and all borders after being dynamited are plowed deep with six-mule plows. It is doubtful whether there is another park that has been shot so full of holes or where so much artificial irrigation has been necessary. Every tree has cost at least a dollar to plant and many of them a great deal more. Thousands of acacias, eucalyptus, cypress, cedars, pines, peppers, etc., have been planted in groves on the borders of the park and along the boulevards through the canyons.

Several hundred acres of the park, mostly unimproved, were set apart for the exposition, and here in less than three years has been wrought a transformation little less than marvelous and utterly impossible in other than a frostless clime. In carrying out the ground plans of Director of Works Frank P. Allen most of the planting was done under the direction of Superintendent of Parks John G. Morley, who kept the idea of permanency well in mind. The well-known deciduous trees of the East are conspicuous by their absence, still there is such an abundance of the semi-tropical and all of it so admirably adapted to the Span-

ish colonial and mission architecture of the buildings that a delightful atmosphere is created wherein lies the charm of this "Exposition Beautiful." Streets, bridges, gardens, pools, etc., are known by their Spanish names. On the Plaza de Panama hundreds of gentle pigeons recall the Plaza of St. Marks, balconies draped with gayly colored portieres and other features heighten the Old World touch. This is not a world's fair nor in any way intended as a competitor of the magnificent Panama-Pacific International Exposition at San Francisco, neither is its object purely local; the ethnology and archaeology of the great Southwest with its varied and really wonderful possibilities are revealed here as was never done before. The "back to the land" movement is stimulated in a practical manner. In addition to showing the finished product of orchard and farm, moving pictures and competent lecturers make plain every process through which the crop must go from seed time to harvest and final shipment. A model ranch with citrus and deciduous orchards in blossom and fruit, demonstrations of intensive farming, and a cozy bungalow in a mass of flowers, is an attractive feature of the exhibit made by the seven southern California counties. Captain J. Edward Gray, well known

among florists, has charge of the planting in connection with this exhibit.

The principal approach to the exposition is through an improved portion of Balboa Park and across a seven-span concrete bridge of the cantilever type 1,000 feet long and 135 feet above the lagoon in the canyon. Panoramic views of city and ocean are to be had here. No adequate idea of the beauty of flower and foliage that abound can be given in this limited space. In a clime where the potted plants of the conservatories of the East clamber over porches and pergolas the year round, where *Araucaria excelsa* towers to a height of fifty or more feet and majestic palms take the place of ordinary street trees, one may form some idea of what to expect in the way of flowering plants that grow on from year to year.

The patio or little garden seen in the illustration is typical of much of the planting on the exposition grounds. These groups include several varieties of palms, Italian cypress, *Casuarina*, bamboo, Scotch broom, with smaller flowering plants in the margins. The beauty of the buildings as they rise out of their wealth of greenery is still further enhanced by flowering vines, such as *Bourgainvilleas*, *Tecomas*, *Jasmines*, *Clematis*, *Wistaria*, *Lonicera*, roses, etc. The border planting along the arcades which connect all the main buildings is varied and interesting. The shiny leaves of the *Coprosma* formed an effective setting for the brilliant *Poinsettias* in mid-winter, did similar service for *Watsonia* and Bermuda lilies in April, and *Gladiolus* in May. Perennials in their season will follow all through the year. *Grevillea Thielmania*, a graceful shrub with feathery foliage and bright red flowers, is ef-



PATIO, SAN DIEGO EXPOSITION; TYPICAL OF THE PLANTING ON THE GROUNDS.

fective with *Acacia verticillata*, *Hakea*, *Watsonia*, *Ageratum*, etc. Masses of Cherokee roses, climbing nasturtiums, *Ricinus sanguineus*, and *Mesembryanthemum* give color to the canyons. In the Palm Jungle, true to name at least in one respect, there are palms of great size and in many varieties massed with so many varieties of uncommon plants that one wonders at the collection and the luxuriance of plant life in what was a jackrabbit corral of chaparral a few years ago.

Many of the palms throughout the park weighed fifty tons or more and required road roller engines and cranes to transplant them. Incidentally this suggests some idea of the magnitude of the work that has been done and its attendant expense.

The Botanical Building is a monster lath house on a framework of steel, with conservatory adjoining. The choicest exotics are here and in the pools in front of the building aquatic plants in great variety

make a pretty picture in the formal landscape and an ideal abiding place for innumerable goldfish that come to the surface to be fed.

The \$100,000 open-air organ and music pavilion presented to the city by J. D. and A. B. Spreckles adds its peculiar charm to the scene. Daily recitals are given by Dr. H. J. Stewart, an accomplished organist of national repute. It is an alluring place this, inspiring and restful to a degree never before experienced at an exposition, because never before have the favorite Old World haunts of the globe-trotter been so charmingly reproduced. One feels that commercialism does not dominate everything, desirable as it is in its place. Architecturally and arboriculturally the exposition may well be called a gem whose influence will be far reaching throughout this great Southwestern country that is just coming into its own.

R. J. HAIGHT.

San Diego, Cal.

ORGANIZING and DEVELOPING a MODERN CEMETERY

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City Mo.

V. The Road System.

As in the case of a town or city, the first consideration in designing a cemetery is communication or circulation. The lots would be of little or no value without ready access. This should naturally fall into certain main arteries which will carry the bulk of traffic, with secondary roads to provide access to the remainder of the ground.

The main roads will be determined by the logical sites for entrance, chapel and other features, as well as by the topography. Therefore, the point of entrance should be determined first.

It is obvious that this should be located at a point convenient to most of the traffic, on the side toward the city or the main highway. In some cases, two or more entrances are necessary, but each additional entrance adds difficulties in control and chances for confusion. Possible future en-

trances should be carefully considered, as they will govern certain details in the entire road system, referred to later.

As was mentioned in the chapter on selecting a site, the entrance should be so located that the greater portion of the land will be above it. Elevation is a comparative matter, and the lowering of the entrance point elevates the ground in effect, and this, at least from the usual American viewpoint, makes it far more desirable. This idea may be partly due to the unconscious supposition that low ground is always wet ground, and thus unsuited for burial purposes, which, of course, is very far from being the universal case, as any geologist can testify. A valley may very often have the feeling of peace, quiet and seclusion so desirable in a cemetery, which is not obtainable on the more open hills.

Perhaps no feature of the cemetery will attract so much attention or give so much

chance for publicity as the entrance. This fact should be duly recognized in the care given to the design. The possibilities of making this an attractive architectural feature and in harmony with the other necessary structures will be discussed later. The other buildings which are normally required in a cemetery and which have to be served by the road system are office, superintendent's lodge, chapel and public receiving vault.

In some cases these buildings can all be grouped at the entrance, as units in the design; the office and lodge under one roof and the chapel and vault likewise. Again the chapel can often be made the feature of either a formal or informal development of roads, walks and flower beds in the vicinity of the entrance, or it can be set informally nearer the center of the grounds. In any case, the site should be determined at the time the road system is designed, as

it is as important to have ready access from this building to all parts of the ground as from the entrance.

Because of this it is evident that the location near the main entrance tends to simplify the road system, at least in a small tract, and moreover makes use of this portion of the ground which is primarily ornamental and should not be used for burial purposes.

The necessary service buildings, stables, garages, storage yards, greenhouses and foremen's cottages should be grouped in the least conspicuous place, where they can be secluded from the remainder and not interrupt the road system.

Beyond some possible formality at the entrance, there is little question about the informal or naturalistic style of landscape development being the most beautiful and suitable as well as the least expensive.

The roads should be a compromise between easy grades and directness of route. On very rough topography the former is of perhaps more importance than the latter; in fact, a maximum can be set for the grade, which will in turn control the directness of route. Five to seven per cent—that is, five to seven feet rise in 100 feet—is about the limit of comfortable gradient in all weather conditions, but ten per cent is very often necessary on secondary roads for short stretches. More than this would be very undesirable, although up to 16 per cent is often found in cemeteries. Such grades are apt to prove dangerous in freezing weather, either for horse or automobile.

Roads carefully adjusted to the topography affect an immense saving in the cost of grading, and if carefully designed in both plan and profile will give by far the most pleasing results. There is no use designing a beautiful curve in plan if the profile of it when adjusted to the ground and seen in perspective will make it appear foolish. There is far too little study and understanding of the relation between plan and profile.

Symmetry or set designs over large areas of rolling land are equally foolish. The writers were called in one instance to redesign portions of a cemetery that had been laid out to resemble in plan an elm leaf. A broad road formed the mid-rib with narrower roads every forty-five feet for the veins and a broad road again outlining it. This was superimposed upon about fifty acres of rolling land to which it bore no relation, and the lack of beauty and wastefulness of the result and the unnecessarily steep grades are evident. On account of the rolling topography it was impossible to see from one end to the other of the narrow roads, and as these were too narrow for vehicles to pass, a great deal of confusion resulted. The replatting of a portion of this cemetery, eliminating unnecessary roads and paths and

thus increasing the salable land, showed from the economical standpoint a saving of more than \$3,000 per acre. From the æsthetic standpoint, the results were even more marvelous.

The road location, besides being determined by topography and gradients, must bear some relation to the convenient size of the lot sections. It is pretty well established that these sections should not be much in excess of 300 feet across, for the reason that 150 feet is about the greatest distance that the average pallbearers can comfortably carry a heavy casket. It is possible that some light truck or device with wheels for carrying the casket longer distances may come into universal use and thus permit larger sections.

In the case of very hilly land, such as in Glenwood Cemetery, the road system of which is pictured here, the requirements for easy grades to serve every portion of

the ground usually result in more roads and a consequent less width of section.

From the sales standpoint this is desirable on this kind of land, as it is much easier to sell a lot above the road than one below it. A lot which might not be considered if viewed from the road above can often be sold from the lower road without difficulty.

The length of the section is less determinate than the width. In the case of very long sections provision should be made for turning in the bordering roadways. To prevent unnecessary turning in the confusion following a funeral, the procession should be so headed toward the grave that it will be facing on a road leading back to the entrance.

Sharp turns should be avoided wherever possible. Long, sweeping curves are very preferable from both practical and æsthetic reasons. Sharp curves and especially sharp



GENERAL PLAN, HIGHLAND PARK CEMETERY, KANSAS CITY, KANSAS.
Showing a typical road system in a medium sized cemetery on rolling, but not precipitous ground. Notice the loops, providing easy returns to the entrance.

reverse curves appear much sharper on the ground than in plan. In a general way the road system should develop into a series of loops, making easy returns to the entrance, and for this reason all probable future entrance points should be considered. Even on level land curving roads are more practical, more interesting and more beautiful than straight ones.

In determining the width of roads it is probably safe to allow eight feet for each line of traffic. As even the secondary roads should have room for two vehicles to pass, a minimum width of sixteen feet can be adopted. Three lines of traffic, or twenty-four feet, is usually sufficient for even the main roads. In most cases a reserve space of three to five feet should be provided between the paving and the lot lines. This can be partially utilized for planting or as a sod gutter.

As a road of sixteen feet with the reserve strip will occupy about three acres of land to each lineal mile, it can be seen that a great saving is made by an economical road system.

In recording on the plat the approved road system, reference can be made to the permanent corners and cross section lines described in connection with the topographical survey. Tangents, regular curves and irregular curves can all be definitely located in this way, so that they can at any time be relocated from the original property line and without intricate engineering processes.

Road construction is a topic hardly worth discussion at any length in a series of articles such as this. Materials will vary in

the different localities and methods will vary with the soil, climate and materials. A good road in a cemetery has no special requirements different from that for a park or extensive private place. The most universally used is, of course, the crushed stone or macadam construction, with some surface binding or treatment to make it as dustless and proof against wear and

matter of artistic judgment and very difficult to describe by set rules. Who can say that the changing and modeling of the ground surface into beautiful and naturalistic forms is any less of a fine art than the work of the sculptor in marble. The materials and technique differ, the principles are the same. It might even be claimed that the work of the landscape



GENERAL PLAN, GLENWOOD CEMETERY, NORTH KANSAS CITY, MISSOURI. Showing a road system for an extensive, very hilly tract, the topographical survey of which was illustrated in the last article.

weather as possible. This subject is a very large one, and the past ten years has seen quite a revolution in road construction. The next ten years may develop equally advanced methods.

Grading is a subject which relates directly to the road system and must be considered at the same time. Proposed changes in grade can be recorded either by contours of finished grade on the road plan, by elevations at sufficient intervals, or by sections and profiles. Grading is a

architect is more difficult than that of the sculptor. He has to picture in his mind the result as it will appear in three dimensions, then record it in plans and drawings in such a way that others, sometimes under his direction, sometimes not, will produce the picture he saw.

In a general way, the roads should be slightly depressed and the sections slightly crowned, but the slopes should not be too steep and should sweep easily into the surrounding topography.

AMERICAN ACADEMY OF ARBORISTS ORGANIZED

The American Academy of Arborists was recently organized in a meeting at New York to promote landscape and tree work and its literature on a high plane. The organization was formed at the Zoological Park, Bronx, New York City, on January 2, 1915. Its aim is to place and maintain the practical arboriculture and landscape forestry of the country on the highest professional basis. The charter members are:

Hermann W. Merkel, Chief Forester, New York Zoological Park, Bronx, New York City.

William W. Colton, Forest Commissioner, West Newton, Mass.

Prof. J. W. Toumey, Director, Yale University Forest School.

J. J. Levison, Arboriculturist, Park Department, Brooklyn, N. Y.

Harold J. Neal, City Forester, Worcester, Mass.

R. B. Maxwell, City Forester, Baltimore, Md.

George A. Cromie, City Forester, New Haven, Conn.

James H. Walker, City Forester, Newark, N. J.

H. B. Filer, City Forester, Buffalo, N. Y.
A. T. Hastings, Jr., City Forester, Jersey City, N. J.

The officers elected are as follows:

President—Hermann W. Merkel.

Secretary—J. J. Levison.

Vice-Presidents—William W. Colton, R. B. Maxwell.

Board of Directors—James H. Walker, George A. Cromie, Harold J. Neal.

The following copy of the constitution and by-laws will give in detail the aims, purposes and methods of the organization:

CONSTITUTION.

Article 1. Name and Object.

Section 1. The name of this Association shall be the American Academy of Arborists.

Sec. 2. The object of the Academy shall be the advancement of arboriculture and landscape forestry, and the maintenance of the highest professional standard among its members.

Article 2.—Members.

Section 1. The members of this Association shall be designated as (a) Fellows, (b) Honorary Members.

Sec. 2. A Fellow shall be at the time of his admission to membership not less than twenty-five (25) years of age, and shall have been actively engaged in the practice of his profession for 10 years. Graduation from a school specializing in Arboriculture or the arts and sciences closely connected with

Arboriculture shall be accepted by the Academy and credited with a proportionate number of years of active practice.

Sec. 3. An Honorary Member shall be a person of broadly acknowledged eminence in Arboriculture or landscape forestry, or one whose services to the objects of the Academy shall entitle him to this position.

Sec. 4. Honorary Members shall not be entitled to a vote in the Academy.

Article 3.—Meetings.

Section 1. Regular meetings shall be annual meetings, and shall be held on the second Saturday of January.

Sec. 2. The place of meetings shall be decided by the Board of Directors.

Sec. 3. Special meetings will be held upon the order of the Board of Directors or upon the written request of one-third of the Fellows.

Sec. 4. At any meeting a quorum shall consist of not less than seven (7) Fellows.

Article 4.—Officers.

Section 1. The officers of this Academy shall be a President, two Vice Presidents, and a Secretary-Treasurer, and a Board of Directors.

Sec. 2. The terms of all officers shall be for one (1) year.

Sec. 3. The duties of the President, Vice-Presidents, Secretary-Treasurer shall be those usually incumbent upon such officers.

Sec. 4. The Board of Directors shall consist of the President (Chairman ex-officio), Vice-Presidents, Secretary-Treasurer, and three (3) Fellows of the Academy chosen by the President. The Board shall manage and conduct all business of the Academy.

Sec. 5. The Board of Directors shall act as a Committee on Publication, compiling and editing once

each year a report which shall be the official organ of the Academy. This report shall contain a statement of the status of the Academy, proceedings of each annual meeting, and such technical or professional articles as may be of value to the Fellows. The Secretary-Treasurer of the Academy shall act as the Secretary to the Board of Directors.

Article 5.—Nominations and Elections.

Section 1. At each annual meeting the Academy shall elect a President, two (2) Vice-Presidents, a Secretary-Treasurer. Officers shall assume their duties upon receiving notice of their election, and shall hold office until their successors have been duly elected. The President shall appoint three (3) Fellows to serve with the officers as the Board of Directors.

Sec. 2. The officers and members of the Academy shall be elected by ballot. The officers shall be elected annually and any officer shall be eligible for re-election. Candidates for officers shall be elected upon receiving a plurality of all votes cast. Candidates for membership shall be declared elected

provided not more than two (2) negative votes are cast.

Sec. 3. Application for Fellowship must be made in writing and signed by a Fellow of the Academy to whom the applicant is personally known. The Secretary shall present the applications to the President who in turn will refer them to his Investigating Committee and only those reported favorably by this Committee shall be placed before the Academy for vote.

Sec. 4. A nominee for Honorary membership shall be proposed by the Board of Directors who shall state his qualifications in writing. He shall be elected by the Academy.

Article 6.—Dues.

Section 1. An applicant for Fellowship shall pay an initiation fee of \$5.00 with application. This shall be returned if applicant is not elected.

Sec. 2. The annual dues of Fellows shall be \$3.00.

Sec. 3. Honorary Members shall not be subject to initiation fees or annual dues.

Sec. 4. Any member whose dues remain unpaid

for six (6) months shall be declared in arrears. The Board of Directors may then remove him if he fails to pay his delinquent dues within thirty (30) days after notification by the Treasurer.

Sec. 5. Resignation must be submitted in writing and may be accepted by the Board of Directors provided all indebtedness to the Academy has been discharged.

Sec. 6. The Academy shall issue to Fellows on entrance to membership a certificate of membership and an emblem which shall be the property of the Academy; the Fellow making a deposit on receipt of same. In case of expulsion or resignation this shall be returned to the Academy and deposit refunded.

Article 7.—Amendments.

Section 1. Proposed amendments to this Constitution must be reduced to writing and signed by two (2) members of the Academy and presented at a regular meeting. The proposed amendment shall be adopted provided a majority of affirmative votes are cast.

SELLING CEMETERY LOTS ON CREDIT—V

Symposium of Methods and Forms Used by Many Cemeteries in Lot Sales and Collections.

When a lot is sold on partial payment plan we require one-third of the purchase price cash; balance is payable within 90 days, without interest. If more time is desired, we charge 6 per cent of any unpaid amount after the three months. Usually such accounts are paid within one year.

Lately we have encouraged cash payments for lots by allowing a small discount, which is taken advantage of by many and has operated to diminish delinquents.

No stone work can be erected on any lot until full payment for same has been made and certificate of ownership issued.

When parties fail to complete payments for lots after repeated demands, they are notified that, unless the unpaid balance is forthcoming by a certain date, the unpaid for portion of the lot will be resold. The result of this notice very often is followed by payment.

When this is done we permit no monument on such a lot, neither by the original purchaser nor by the purchaser of the unpaid portion.

In no case have we removed, nor shall we remove, the dead, because we do not consider it wise to open the way for unpleasant litigation.

FRANK EURICH,
Supt., Woodlawn Cemetery.

Detroit, Mich.

* * *

We sell a large number of lots that are purchased on the contract plan. The following blank contract is used:

Kansas City, Mo.,191..
Received ofthe buyer
..... Dollars,
in part payment for.....
.....
of Forest Hill Cemetery, in Jackson County, Missouri, as the same is marked and designated upon the recorded plat thereof, the total amount to be paid in purchase of said lot being..... Dollars and the balance of the purchase money to be paid as follows:
On\$.....On\$.....

On\$.....On\$.....
On\$.....On\$.....
On\$.....On\$.....
On\$.....On\$.....
On\$.....On\$.....
With interest at the rate of six per cent. per annum.

It is expressly understood that the buyer is to use said tract for burial purposes only, and subject to all the rules, regulations and restrictions, now or hereafter provided by the Troost Avenue Cemetery Company.

In the event of the failure of the buyer to pay any of the notes herein mentioned, this contract shall become void at the option of the Troost Avenue Cemetery Company, and it shall have the right to enter upon said tract, and to disinter any body or bodies interred thereon, and to transfer the same into any other grave or graves in Forest Hill Cemetery to be selected by the seller, and to deduct from the price paid a fund sufficient to fully pay for said grave or graves for the expenses of disintering and transferring, and the expense of restoring to proper condition for re-sale said lot.....
Block..... and the surplus, if any, shall be returned to the buyer.

TROOST AVENUE CEMETERY CO.

By

This, when properly filled out and signed by purchaser, gives us the privilege of making transfer of remains to single grave or any other disposition the purchaser sees fit. Our state has a law against removing bodies without consent of relatives. When the buyer gets behind in payments and shows no disposition to meet his notes, very little can be done but take the lot back. We try in every way to help them meet payments. We have made very few removals under these conditions; would rather take unused part of lot, giving them deed to used portion.

We find best time to get money is when the grief is fresh. With some people they will promise things that are hard to fulfill and as time goes on they neglect those promises, so we have to cancel a contract once in a while. We find it pretty hard to force them into paying. The only inconvenience to us in doing this is making fractional lots in districts where only lots are sold.

RAYMOND DUNN,

Supt., Forest Hill Cemetery.
(Troost Avenue Cemetery Co.)

Kansas City, Mo.

We sell lots on credit in the following manner: At the time of purchase we insist on one-half of the price of the lot being paid for before allowing any burial to be made; also, we insist that at the time of the burial all interment fees be paid before starting the opening of the grave. We then take a note for the balance with interest at 6 per cent, the legal rate of our state. The note reads:

Toledo, Ohio,191....
\$.....
.....after date.....promise to pay to the order of The Woodlawn Cemetery Association, Dollars
Value received, with interest at six per cent. per annum until paid.
This Note is given as part payment on Lot No.Sec. No. and if this note is not paid promptly as it matures, the Association may take possession of and sell said lot and remove the remains of any body buried therein to any other part of the Cemetery, retaining any payments theretofore made as rent for the use of said lot.

As regards delinquent purchasers, will say that we have several lots still unpaid, some dating as far back as twenty years. We have never adopted any arbitrary measures such as suing the note or removing the remains interred thereon. However, in case of a purchase balance still unpaid, or an indebtedness of some sort or other due against the lot, and application being made to make a second burial, we should then insist that no interment take place on the lot until each and every indebtedness is fully paid. We have never been fully satisfied as to the position the courts would take in our state as to the situation brought about by our using arbitrary means to obtain full payment of a lot. We have also refrained from using these harsh methods, since we have not desired to create a bitter feeling against the cemetery and because we are not anxious to submit ourselves to damage suits.

JNO. PERRIN,
Supt., Woodlawn Cemetery.

Toledo, O.

We have had twenty-four lot holders in thirty years who discontinued payment on lots up to 1912. We use no legal course to collect, only use ordinary statements. Our success is good in collecting, as we trust entirely to the buyer's honesty. We have never removed a body from a lot that was partly paid for, as the law will not permit us to do so, but we can sell the portion of the lot not occupied. We have no contract form; all we do is to have party buying fill out form, giving name and address, showing cash deposit and amount they can pay in payments to suit their convenience and ability, and with very few exceptions they come in and make regular payments. If they show slowness in paying we jog their memory by sending statement and kindly asking that they come around and see us as to why they are not making payment promptly. We employ no collector or agents to run after them. We find that our plan works very nicely and we are very well pleased with our people.

THEO. E. ANDERSON,
Supt., River View Cemetery.

Portland, Ore.

* * *

We have been selling lots in Roselawn for the past twenty years on the installment and credit plan. In every case we exact a cash payment before the first interment is permitted of an amount sufficient to reimburse us for the amount of ground used as a single grave, and take notes for the balance under a contract which reads as follows:

PARTIAL PAYMENT CONTRACT.

This agreement made and entered into this day of.....A. D. 191.. between The Pueblo Cemetery Association, a Colorado Corporation, party of the first part, and of County, State of Colorado, as part of the second part,

Witnesseth, That in consideration of the sum of Dollars in hand paid to said first party by said second part, the receipt whereof is hereby acknowledged, and in the further consideration of promissory notes bearing even date herewith, and described as follows:

..... all bearing interest at the rate of eight per cent per annum, now executed and delivered to said party of the first part by said part of the second part, the said party of the first part agrees to sell and convey to the said part of the second part the following lots and parcels of land for sepulture only, viz: Lot in Block....., in Riverview Cemetery, in the County of Pueblo, State of Colorado, according to the recorded map thereof filed in the office of the County Clerk and Recorder of said Pueblo County.

The purchase price of said property is..... Dollars and said promissory notes represent the amount thereof less the cash payment aforesaid; and it is agreed that the said part of the second part may anticipate payment of said promissory notes in the regular order in which the same may become due.

It is further agreed that the part of the second part shall pay said promissory notes punctually according to their terms; and upon said payments as aforesaid being made, the party of the first part will upon surrender of this instrument, execute and deliver to the part of the second part,..... representatives or assigns a warranty deed of con-

veyance of said premises in fee simple, for purpose of sepulture only. Subject to the rules and regulations of said association, and the provisions of the laws of the State of Colorado now in force or hereafter to be passed, regulating titles to cemeteries.

Time is and shall be considered as of the essence of this contract and in case of default in the payment of said promissory notes or any of them, or any part thereof when the same becomes due and payable, the party of the first part shall have the right and option to terminate this agreement by giving the part of the second part written notice thereof, personal or by mailing the same to..... address, named in this contract, and thereupon the part of the second part shall forfeit any and all payments made under the terms of this contract, and the party of the first part shall at its option have the right to remove the bodies of any or all persons buried on said lot and re-inter such bodies in single graves in said Riverview Cemetery.

Nothing herein contained, however, shall be construed to limit or restrict the right of said first party to bring suit against said second part for the balance of said purchase price under this contract or upon said notes.

In Witness Whereof, the said The Pueblo Cemetery Association hath hereunto affixed its corporate seal and caused the same to be attested by its proper officers, and the said part of the second part has set hand and seal the day and year first above written.

President.

Attest:

Secretary.

Postoffice Address:

.....[SEAL]

.....[SEAL]

.....[SEAL]

We find that while some people may be slow in paying the notes, very few have ever refused payment. In case of refusal we use ordinary means of collection. If

these means fail, we sometimes threaten removal of the body from the lot, but so far we have not attempted any removals. While there is no specific law in this state covering the removal of a body from a lot which has not been paid for, still we do not feel that it would be a safe proposition for us to undertake it. We have, in a number of instances, waited for years after all of the notes were due, until another death would occur in the family of the lot purchaser, in which case we would insist upon the full payment, with interest, before the interment would be permitted. We believe that we have this right, the party having no deed for the lot; at least, we have never been questioned.

We have had some cases where parties have refused payment and have left the country. In this case we sell the remainder of the lot, either as a whole or in single grave. In this manner we lose absolutely nothing and take no chances in disturbing the remains buried upon the lot.

Our experience is that we sell a better class of lots upon the instalment plan than if we insist upon all cash at the time of purchase, and are enabled to sell endowed lots at a good price to people who would, were they compelled to pay cash, have to bury in a single grave.

PUEBLO CEMETERY ASSOCIATION.

A. Sonneborn, Secretary.

Pueblo, Colo.

IMPROVING THE LOWLY MARKER.

Any effort to improve the appearance of the lowly and general unlovely marker should be heralded with acclaim. We are therefore glad to bestow some well-earned praise to the very decorative type of flat or ledger marker that has been developed by the Lincoln Monument Co., of Lincoln, Ill. The "Hayward" marker, illustrated here, is a big improvement over the common types of marker in many ways. The very decorative and beautifully executed

lettering, the pointed background, and the raised panel combine to make a genuinely decorative effect of this simple inscription and the G. A. R. emblems. This is one of a series of similarly designed markers executed in Winnsboro Blue granite by the Lincoln Monument Co. Roy Gale, of this firm, has given much attention to improving the appearance of markers and the encouraging results speak for themselves in this illustration.



LEDGER MARKER WITH DECORATIVE LETTERING.

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department.

Getting Rid of Moles.

I would like to ask in your next issue the best method of getting rid of moles. They have almost taken the cemetery and we must get rid of them.—O. A. W., Mo.

We are bothered some with moles every year. We trap them and catch every season from one to two dozen. We watch for them, find where they are working and set our trap on the runway. I know of no way but to keep everlastingly at it.

LEROY CHRISTIE,

Supt., Ottumwa Cemetery.

Ottumwa, Ia.

We find the spring traps the best remedy to keep the moles down to the minimum number. It seems impossible to eradicate the pest entirely from our cemetery. Occasionally placing moth balls in their run will have a tendency to move Mr. Mole. The use of the moth ball, and having plenty of steel spring traps set, is about the best and most effective way of combating the evil.

WM. MITTELBACH,

Supt., Walnut Grove Cemetery.

Boonville, Mo.

As to moles, we trap and kill them with a spring trap placed over the runway. When sprung, the spikes in the trap shoot down and transfix the mole. They can also be destroyed by the fumes of carbon bisulphite, which we use in quantities for killing ants.

FRANK HOTCHKISS,

Supt., Bellefontaine Cemetery.

St. Louis, Mo.

We have used the mole trap, and that only. We had more moles than anybody, but are now rid of them, catching only two to four a year.

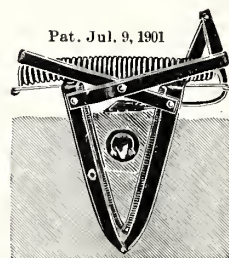
STANLEY M. HEYER,

Supt., Elmwood Cemetery.

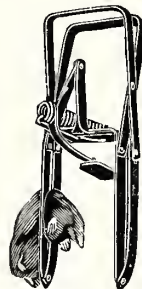
Kansas City, Mo.

The Heartley mole trap, sold by Geo. W. Heartley, 902 Summit street, Toledo, O., is widely used for trapping moles. It does not jump from the ground when sprung and will catch a mole deep in the ground. It has no points or obstructions sticking out of the ground to endanger children or stock. It extends only five inches above the ground and seven inches in the ground. It is recommended for hot-beds, as it will not interfere with the glass cover. It does not have to be dug out to remove the mole. All that is necessary is to draw the trap out of the ground when sprung. The mole comes out with trap, which does not deface the lawn or injure plants. The first thing to do is to find the mole's runway, which usually starts from a building, a fence or a piece of ground not often disturbed. They pass through these runways regularly about 6 a. m., 12 m. and 6 p. m. Set your trap on one of these runways. As many as thirty moles have been taken from one of these runways by a Heartley mole

trap. Press the runway down firmly with the foot, then grasp the levers and force the points of the jaws through the mole's runway until trip rests firm on the ground; then force levers apart until locked with trip, as shown in the illustration. Care should be taken to see that the trap is in line with the mole's runway, so mole can enter between the jaws and force the trip up, thus springing the trap. When trap is sprung, simply grasp the levers and pull the trap up and the mole will come as shown in the other picture. The joints should be kept well oiled.



Heartley Mole Trap,
Open as Set.



Sprung with
Mole Caught.

* * *

As to moles, they are not easily trapped, but can be exterminated in two ways. Bisulphite of carbon poured in the runs, then covered up, will do the work very well, if no part of the run is tramped down, as this would close the run and prevent the fumes penetrating to all points. As this is a heavy gas, it settles to the lowest point, so pour it into the run at the highest points. Another method which is the surest way is to tramp down all runs by 10 a. m.; then go back at 12:30, and if the mole has been working, tamp the runs down again and step away from the runs six to ten feet and watch. In five minutes he will begin to work. Let him work until he has raised the ground for two or three feet, then quietly slip up and with your heel tamp the run just where he started to work. He will back up in the run to a point just in front of your heel. Stick a three-pronged meat fork into the run just half the length of a mole (two or three inches) ahead of your heel, and you will get your mole. Hold fork in place and dig around it and take him out. If it is cloudy weather and it looks like rain, and you find he has not worked by 12:30, go back at 3 p. m., as it is their habit to change time of working to a later hour if it is going to rain. Moles usually work early in the morning, at noon, and again in the evening, about the time men eat their meals.

SID J. HARE.

Kansas City, Mo.

Dust Laying on Brick Roads.

Editor Asked and Answered: I wish to kindly ask you to answer in the next copy of PARK AND CEMETERY the question as to

what is the best dust layer for brick roads, where there is a lot of traffic and also street cars running. No doubt there are some of the cemeteries that use a dust layer for brick roads, who may be kind enough to advise us what is the best kind.—J. S., Ill.

None of our cemeteries in this vicinity have brick roads, nor have we had any experience in treating brick roads with a dust layer. A properly pitch-filled brick pavement can be flushed with water, and therefore in this vicinity we do not have a call for a dust layer on brick pavements.

BARRETT MFG. CO.

This brick road must be on the highway adjoining the cemetery. City or town management should keep it well swept and sprinkled. No other treatment to keep the dust down, to my knowledge. No cemetery would have a brick pavement on its grounds.

JNO. W. KELLER,

Supt., Mt. Hope Cemetery.

Rochester, N. Y.

This is a question which seldom comes up, because of the infrequency of such trouble. Without knowing what causes the dust in this particular instance, it would be difficult to advise as to the best remedy. In general, however, it would seem that sprinkling with water would be the best, and perhaps only, successful way of keeping a brick road surface free from dust.

E. L. POWERS,

Secretary, Am. Road Builders' Assn.
New York.

I have nearly a mile of brick drive in this cemetery. We are not troubled with any excessive dust, as most, in fact, all the travel over them is funerals. We never sprinkle or sweep them. Our greatest trouble is the growing of weeds between the bricks. This we overcome with weed killer.

C. G. SIMON,

Supt., Mt. Peace Cemetery.

Philadelphia, Pa.

Solvay calcium chloride is used by several cities in solutions for winter sprinkling on pavements, not only as a dust layer, but to prevent freezing. The only instance we know of where the material was used in the summer was in the village of Solvay, N. Y., adjoining our works, the application being made in liquid form on vitrified brick pavement. The results are very satisfactory, and it does not seem to cause any deterioration of the brick. The cities of St. Paul and Minneapolis have used calcium chloride in solution for a number of years on all kinds of paved streets. This has been used mostly in the winter time, when sprinkling with water was impossible on account of freezing. A calcium chloride solution can be made non-freezing at a temperature as low as 50 degrees below zero. Of course, where there is no absorption of the calcium chloride by the road material the effect of the chloride is conditional on the amount of

traffic, and to the flushing effect of rain storms, and the chloride would have to be used frequently. SEMET SOLVAY Co.

Solvay, N. Y.

We have used calcium chloride for several years in winter to keep down dust on paved streets. Our method is to dissolve the material in tanks which are equipped with steam coils to heat the water and then run it onto paved streets with our ordinary sprinkling wagons. With Solvay calcium chloride a solution can be made that will not freeze until the temperature reaches 50 degrees below zero. For temperature at zero we use a solution of two pounds of calcium to one gallon of water, increasing or decreasing such quantity to suit temperature so that at 20 degrees above zero one pound per gallon would be sufficient and at 20 degrees below three pounds per gallon. The mixture can be made in a sprinkling tank by running a live steam hose into the tank and stirring

thoroughly, breaking the calcium as small as possible in the first place. An application should last from three to six days, but climatic conditions may effect a good deal; for instance, if the atmosphere is very dry and there is considerable wind, the application will dry more quickly, whereas, if the atmosphere carries moisture, the application will absorb a great deal of it and retain its efficiency for a long period. I could see no benefit in using the calcium in non-freezing weather when water can be used. Our method during open season is to flush our paved streets with power flushing machines regularly.

A. JACKSON,
Supt. of Sanitation.

St. Paul, Minn.

Calcium chloride is the best and only dust layer for cold weather that I have ever used and it has proven very satisfactory. I have never used calcium chloride on any paved streets in summer time. I only use

it in fall and winter for laying dust. The amount to use depends on the weather. When the weather is about zero it takes one drum to a 600-gallon tank of water. The drum contains about 700 pounds. It will hold the dust for about three days. If the weather is cold, more must be used.

H. GLEASON,

Street Commissioner, Fourth Ward.
Minneapolis, Minn.

Regarding calcium chloride for brick pavement, beg to advise that this is no treatment for brick pavements. Calcium chloride applied on such pavement would last only a very short time, besides being very expensive. We tried this only one time in our downtown section, but found it too expensive for the good derived from same. We use nothing on brick pavements to lay the dust except water.

CHAS. O. DAVIS,
Superintendent of Street Cleaning.
Milwaukee, Wis.

PARK SUPERINTENDENTS AT SAN FRANCISCO

The seventeenth annual convention of the American Association of Park Superintendents will be held in San Francisco, August 18, 19 and 20.

The opening day, August 18, will be devoted exclusively to business sessions, morning, afternoon and evening, while the two succeeding days will be given over to inspection tours and social functions.

Inasmuch as the Society of American Florists and the National Association of Gardeners have set their convention dates for the same week in San Francisco, the three organizations will undoubtedly bring

together a tremendous gathering of men engaged in these professions.

The Park Superintendents' Association, in an effort to have as many as possible travel westward together, is arranging for a special train from Chicago through to San Francisco via the Pacific Northwest, which is conceded to be a scenic wonderland.

The party will assemble at Chicago on August 8 and stopovers are planned at Minneapolis, Glacier National Park, Spokane, Seattle, Tacoma and Portland, where elaborate entertainment features will be

provided by local authorities at no expense to the party except at the National Park. Members and friends and relatives of kindred societies will be invited to join the party. No specific return route is being planned, as the length of time to be spent at the San Francisco and San Diego expositions is so much of an individual matter dependent on time and means and a return route via Colorado or the South is an open question for individual decision.

Further details may be had from Secretary Roland W. Cotterill, Seattle, Wash.

CITY AND COUNTY PARK WORK IN MILWAUKEE

Milwaukee's new county park commission laws will be of interest to park men who have noted the encouraging growth of the county park and state park ideas in recent years.

The total acreage thus far purchased by the county on the recommendation of the County Park Commission is 240, the total consideration of which is \$112,000.

The City Council has allowed \$6,000 for the purpose of having a comprehensive plan of a future park and boulevard system laid out. During the past two or three years Milwaukee has paid a great deal of attention to children's playgrounds and neighborhood centers. This one feature seems to take better and is appreciated by the masses more than the larger parks.

The functions of the Board of Park Commissioners are to maintain and improve all park lands and park plots of all boulevards which the city acquires.

The total park area of the city of Milwaukee at the present time is 952 acres.

The amount available for operation and maintenance and new construction work cannot exceed .71 of a mill, which at the present rate of taxation amounts to approximately \$350,000. Of this \$350,000, .2 of a mill, or approximately \$100,000, must be used exclusively for construction work on the lake shore drives which have been granted to the city of Milwaukee and the United States government.

In 1897 the state of Wisconsin granted to the city of Milwaukee the right to fill in Lake Michigan and create a lake shore drive from the north limits of Lake Park to the south line of Wisconsin street, a distance of 15,500 feet, and the government granted a similar permit. The Board of Park Commissioners is now engaged in constructing that portion of the shore drive lying between the Milwaukee River flushing tunnel inlet and Wisconsin street. Four thousand nine hundred and eighty feet of breakwater have been constructed and approximately fifty acres of submerged land

has been reclaimed. The total cost for making this land and putting the same in park shape to the present time is \$130,000.

The state of Wisconsin and the United States government also granted to Milwaukee the submerged land off the shore of Lake Michigan, 1,000 feet in width, extending from Russell avenue south to the southerly city limits. This is in the southern portion of the city. The distance from Russell avenue to the present southern limits of the city is 6,500 lineal feet. Up to the present time 2,600 lineal feet of breakwater have been constructed at a cost of about \$100,000. In 1913 the Board of Park Commissioners caused a forestry bill for the care of city shade trees to be passed, but on account of a legal defect the bill could not be made operative. It is intended to have this bill remedied so that this work can be started.

In the operation of the public parks, especial care is taken to make the same as useful and entertaining as possible to the

public. For this purpose such athletics and field sports as golf, lawn tennis, baseball, football, tobogganing, ice skating, boating, etc., is offered to the people. Besides this, children's playgrounds are maintained, and wherever playgrounds are in congested districts they are under the direction of trained supervisors. One of the great entertaining features is the zoological garden, which ranks sixth in size and contains over 700 specimens.

Following is the text of the Milwaukee County Park Commission law:

In every county in this state having a population of at least one hundred and fifty thousand . . . the chairman of the county board shall . . . appoint . . . a county park commission consisting of seven members. The commissioners first appointed shall hold office for the term of one, two, three, four, five, six and seven years respectively. Thereafter one commissioner shall be appointed annually to hold for . . . a term of seven years and until the appointment and qualification of a successor. . . . Such appointments shall be made in writing and filed in the office of the county clerk. All appointments heretofore made are legalized.

2. . . . Any vacancy in said . . . commission shall be filled . . . within ninety days by appointments for the unexpired term . . . by the chairman of the county board; but if not filled within said time, the remaining members of the commission may fill such vacancy.

3. Before entering upon the duties of his office each of said commissioners shall take and subscribe the usual oath of office . . . which . . . shall be filed in the office of the county clerk.

Section 697-69. 1. . . . Within thirty days after their appointment and qualification the said commissioners . . . shall convene at the courthouse . . . and perfect an organization; and thereupon such park commission shall have the usual powers of such bodies in addition to those hereinafter enumerated, shall use a common seal, make by-laws and choose annually from its members all necessary officers.

2. It may also appoint such other . . . agents and employees . . . as may be necessary to carry out its functions . . . and may remove . . . them at pleasure, and make all rules and regulations concerning . . . its work . . .

3. . . . It shall . . . maintain suitable offices, . . . where its maps, plans, documents and records shall be kept, subject to public inspection at all reasonable hours and under such reasonable regulations as . . . it may prescribe.

Section 697-70. . . . The commission shall . . . make a thorough study of the county . . . with reference to making reservations of lands, therein for public uses and laying out ample open spaces, parks, roads and boulevards; . . . make plans and maps of . . . a comprehensive county park system; . . . gather such further information in relation thereto as it may deem expedient . . . and report the same to the county board . . . within two years from the date of . . . its organization. It shall make such other reports, from time to time, as may be requested by the county board. . . .

Section 2. Sections 17870-3, 17870-3a, and 17870-3B of the statutes are renumbered, consolidated and revised to read: Section 697-71. The said commission shall have charge and supervision of all county parks, and all lands heretofore or hereafter acquired by the county for park or reservation purposes; and shall have power:

(1) To lay out, improve, maintain and govern all such parks and open spaces; to lay out, grade, construct, improve and maintain roads, parkways, boulevards and bridges therein or connecting the same with any other parks or open spaces or with any municipality in the county, using such methods and materials as it may deem expedient; to determine and prescribe building lines along the same; and to make rules for the regulation of the use and enjoyment thereof by the public;

(2) To accept, in the name of the county, devises of land and bequests and donations of money to be used for park purposes;

(3) To acquire, in the name of the county, by purchase, land contract, lease, condemnation, or otherwise, with the approval and consent of the county board, such tracts of land or public ways as it may deem suitable for park purposes; but

no land so acquired shall be disposed of by the county without the consent of said commission, and all moneys received for any such lands, or any materials, so disposed of, shall be paid into the county park fund hereinafter established.

Section 697-72. Whenever the said commission requires lands or rights in lands or public ways for any of the purposes specified in section 697-73 and is unable to agree with the owner or owners as to the price and terms of purchase, or whenever for any reason such agreement cannot be made without unreasonable delay, a report in writing by said commission, including a description of the lands or rights in lands or public ways so required, with the name or names of the owner or owners and other parties interested, if known, and their residence, if known, and the value placed thereon by said commission of each tract or right, with an estimate of the damage resulting to the owner or owners from the taking thereof, shall be served on all parties interested, in the manner of service of summons in a civil action, and filed in the office of the clerk of the circuit court. At any time within twenty days thereafter any such owner or other party interested may apply to the judge of the circuit court and thereupon proceedings shall be had, according to the provisions of sections 605, 606, and 607 of the statutes; but if no such application be made within said time the report of said commission shall stand in lieu of the appraisal and thereupon all further proceedings shall be as provided in said sections.

Section 3. A new section is added to the statutes, to read: Section 697-73. The county board shall annually, at the same time and the same manner as other county taxes are levied and collected by law, levy and collect a tax upon the taxable property of such county of one-tenth of a mill upon each dollar of the assessed valuation of the taxable property upon which other county taxes are levied and collected, and the entire amount of such special tax shall be paid into the county treasury as a separate and distinct fund, to be paid out only upon the order of the county park commission for the purchase of land and the payment of expenses incurred in carrying on the work of the commission. Any part of said fund, except five thousand dollars annually, may be transferred to the general fund of the county treasury whenever county bonds for the purchase of land have been voted by the county and placed at the disposal of the county park commission, or whenever the county has assumed an indebtedness on its behalf, equal to the amount of money to be transferred.

Section 4. Sections 17870-4 and 17870-5 of the statutes are repealed.

Section 5. Park commissions organized under former statutes hereby revised and consolidated shall continue to act and be deemed reorganized under this statute with all powers and liabilities herein granted and imposed.

Section 6. This act shall take effect and be in force from and after its passage and publication.

A. A. C. S. CONVENTION IN TWIN CITIES.

The annual convention of the Association of American Cemetery Superintendents will be held in the Twin Cities, August 24 to 28. The first three days will be given up to meetings and sightseeing in Minneapolis and the fourth day to St. Paul.

Headquarters will be at the West Hotel. President Thomas Wallis, Rosehill Cemetery, Chicago, will be pleased to receive any suggestions from members in reference to papers. These will have to be in by July 1.

The Convention Committee for the Minneapolis convention is as follows:

A. W. Hobart, Lakewood Cemetery, Minneapolis, Minn.; Wm. Eurich, Hillside, Minneapolis; J. P. O'Connor, Calvary, St. Paul, Minn.; H. M. Turner, Rose Lawn, St. Paul; F. D. Willis, Oakland, St. Paul.

A number of members will undoubtedly want to continue to the coast for the exposition and visits to cities between, and will be interested in the following schedule of railroad fares that will be in effect during the summer. There will be on sale round-trip tickets with a final limit of three months from date of sale not to exceed December 31, 1915, permitting stopovers at any point in either direction, at the following rates:

From		
To San Francisco, Los Angeles, San Diego, Oakland and return One Way via Seattle Portland or Victoria		
\$ 62.50	Chicago	\$80.00
57.50	St. Louis	75.00
59.25	Peoria	76.50
50.00	Kansas City	67.50
50.00	Omaha	67.50
63.85	Minneapolis	74.45
81.25	Pittsburgh	98.75
98.80	New York	116.30
95.20	Philadelphia	112.70
104.20	Boston	121.70
67.10	Indianapolis	85.00
76.20	Cleveland	93.70
73.50	Detroit	91.00
70.25	Cincinnati	88.40
74.18	Columbus	91.85

PARK NEWS.

Robert B. Cridland, Philadelphia landscape architect, has been selected by the directors of the Southeastern Fair Association, of Atlanta, Ga., to lay out the grounds for the fair at Lakewood Park and to prepare a general plan for the development of the park.

George E. Kessler, the landscape architect who laid out the St. Louis exposition grounds and the beautiful Kansas City parks, is now engaged in doing landscape work in Dallas, Tex.

Will O. Doolittle, formerly park superintendent and city forester of Painesville, O., has now charge of the parks in Minot, N. D.

A recent article in the Rochester *Demo-*

crat and Chronicle describes at length the progress Rochester has made in the development of parks and boulevards since 1890. Through the untiring efforts of a few of the men in that city, Rochester has developed one of the finest systems of botanic gardens and parks in the country. The park holdings at present consist of 1,603 acres.

The preliminary report of the City Plan Commission of Bridgeport, Conn., with civic survey and other supplementary material, by John Nolen, city planner, has been issued. Copies may be had at 25 cents, plus 10 cents for postage. Address City Plan Commission, City Savings Bank Bldg., Bridgeport, Conn.

From the Park Reports.

The annual report of the Board of Commissioners of Tower Grove Park, St. Louis, Mo., describes in detail the work accomplished by that commission during 1914. One of the most important improvements was the repairing and oiling of the principal driveways. Extensive resurfacing was undertaken and completed during the open season, and the old crowns were redressed, involving the use of more than 600 loads of macadam and screenings. The largest undertaking of the year, however, was the successful construction of the shelter house and wading pool.

The South Park Commissioners' report for the fiscal year ended February 28, 1914, briefly tells of the improvements, operation and maintenance of parks in Chicago. The golf shelter at the first tee of the Jackson Park course contains about 750 lockers, accommodating four persons to the locker, together with shower baths, and is maintained free of charge to the public. Over 300,000 people played around these courses at an average cost of a little over 5 cents each during 1913. Approximately 17,334,716 people took advantage of the various facilities offered in this park. The commissioners anticipate making extensive improvements in and adjacent to Grant Park, and have secured all of the riparian rights along the lake front between Grant and Jackson parks, except those of the Chicago Beach Hotel and East End Park, which belong to the city, and the pumping station of the Sanitary District at Thirty-ninth street. Five new parks, though not completely improved, were equipped with playground and outdoor gymnasium apparatus and opened to the public. Considerable work was done during the year on the lake shore extension project of filling in the shallow waters along the lake shore between Grant and Jackson parks. All of the filling was delivered free of cost to the park commissioners. The new shelter in the north end of Washington Park was opened and one also in Jackson Park. Light road oil was applied to park and boulevard driveways and a total of 384,909 gallons of light road oil was used during the season of 1913. Two bathing beaches along the lake shore were also opened, one at Thirty-eighth street and one in front of the German building, Jackson Park.

The Department of Horticulture, Division of Landscape Gardening, of the University of Illinois, recently published an interesting booklet on "Notes for a Study in City Planning in Champaign and Urbana." This describes in detail ways and means by which Champaign and Urbana might be improved, both from an æsthetic and practical point of view.

Many improvements have been carried out in the town of Hopedale, Mass., by the park commissioners during 1914, as shown by their sixteenth annual report. Among the most important was the suppression

and extermination of the gypsy and brown-tail moths. A much larger number was treated this year than ever before. About 6,474 bathers took advantage of the bathing facilities. New paths connecting "Rawson's Bridge" with "Maroney's Grove" and the big boulder in the "Texas" district with the "White Oak Spring" path were completed.

The annual report of the Park Commissioners of the city of Medford, Mass., for the year 1913 tells of some very interesting improvement work done by that commission. The development of the Mystic Valley reservation and boulevard has been steadily progressing. A great deal of excavation from the river and grading of roadways along both banks of the river was accomplished. Several bridges were also constructed.

The annual report of the Park Commissioners of St. Louis for the fiscal year ended April 13, 1914, gives some very interesting facts about the progress made and the results obtained in the public parks during that year. A great deal of construction work was carried out. Among the more important was the construction of Buder Square and Carondelet Playground, a fountain and lake constructed in Clifton Heights Park, and Dakota Park graded and shaped. A large swimming pool was constructed in Fairground Park, the largest and most popular recreation center in that city. Over 500,000 people enjoyed this new feature during the summer. A record number of trees, plants and shrubs were set out during the year. In Forest Park much construction work was completed. Several tennis courts were laid and Lindell boulevard, from Kingshighway to Union avenue, was reconstructed and oiled and the other roads kept in good condition. St. Louis also had a municipal Christmas tree for the first time. This was the gift of the city of Irondale. A bond issue of \$2,750,000 has been asked for by the Park Department for the construction and improvement of five playgrounds for children.

New Parks and Improvements.

Improvement of the park tract comprising approximately 150 acres, located in North Dallas, Tex., to be donated to the city by Colonel W. E. Hughes, will be taken up by the City Park Board with George E. Kessler soon. Mayor Holland, M. N. Baker and Emil Fretz, of the Park Board, recently checked up the financial conditions of the park fund. The fiscal year will be closed with a balance of about \$10,000. During the last eighteen months the board has expended the \$500,000 bond issue proceeds, buying new parks in all sections of the city, and during the last year the park maintenance fund, which amounted to \$100,000, has been spent in improvements. The city has purchased three acres of land at the intersection of Hall, Cochran and Colby streets and Central ave-

nue as a site for a park for negroes. The consideration was \$17,000.

The St. Vrain Valley Fair Association and the City Park Board of Longmont, Colo., have completed arrangements for the improvement and beautifying of the Longmont Driving Park. The plans call for the erection of a large auditorium, an exhibition hall, live-stock stadium and exhibition arena, exhibition pens and stalls, quarter-mile cinder track, ball grounds and children's playgrounds. W. G. Sutherland, landscape gardener, of Boulder, has been chosen to lay the plans for the placing of shrubbery, trees, grass, etc.

The work of beautifying the park on Monument Square, Racine, Wis., was started recently. The park will be planted to tulips and other early spring flowers.

Plans and preparations are being made by the Park Commission for the improving of Riverview Park, De Pere, Wis. New poles will be erected, a sidewalk built, trees and grass planted, and the grounds generally improved this spring.

Hon. J. P. Buchanan, S. D. W. Low and Robert Jahnke, of Brenham, Tex., went to Old Washington recently and investigated the matter of securing an option on some land for the proposed Washington Park, on the site where the Texas declaration of independence was signed. The bill appropriating an amount for this purpose was introduced by Mr. Low, of Brenham, and the measure passed the Senate and is expected to pass the House at the extra session of the legislature.

A movement is on foot among the leading negroes of New Orleans, La., to provide a park around the new colored public library, and a committee, of which George Doyle, secretary of the Plasterers' and Cement Finishers' Union, is chairman, has charge of the matter.

Another attractive park has been laid out by the Union Depot Co., of Galveston, Tex., inside the depot grounds west of the new baggage room, between Twenty-sixth and Twenty-eighth streets. The park site is about 100 feet in width.

Sid J. Hare, of Hare & Hare, landscape architects of Kansas City, was recently in Springfield, Mo., drawing plans and making recommendations for a park and boulevard system for Springfield at the request of the Board of Park Commissioners. Mr. Hare recommends that the series of lakes and waterways be divided into two sections. The first is to begin at Walnut Grove and extend past Doling Park, where many springs are located and where some of the prettiest scenery in this vicinity is to be viewed. The second system would be started at the Country Club, where one lake is located, and would extend to Phelps Park, where a lake recently has been finished, thence to the Elfindale school.

Alterations and additions recently completed in the residence at Round Hill,

Kansas City, Mo., the home of H. C. Flower, president of the Fidelity Trust Co., necessitated considerable change in the arrangements of the ground to give an effective and logical relation to the house. A comprehensive rearrangement, including drives, walks, gardens and terraces, was designed by Hare & Hare, landscape architects. The main garden consists of an open central lawn, 40 by 140 feet, surrounded by hardy herbaceous flowers, hedges and shrubbery. The feature will be a pergola and bird fountain at the farther end, supported by two groups of Lombardy poplars. Beyond this, and reached through

the pergola, is the cut flower garden, devoted to masses of annual and perennial flowers arranged in beds about a quaint brass sun dial. The dial is over 200 years old.

The paving in the vicinity of the soldiers' and sailors' monument in Clinton Square, Syracuse, N. Y., will be torn up and flower beds and fountains installed under the supervision of the Park Commission, if aldermen who have interested themselves in the project can carry it through.

Citizens of Hagerstown, Md., are discussing the advisability of securing Armstrong woods for park purposes.

CEMETERY NOTES

The new addition to Oakland Cemetery, Freeport, Ill., will be dedicated June 8. This new addition is composed of two sections, one of which will be entirely clear, and the other to be much the same as the old section. On the clear tract there will be no monuments, headstones set on a level with the sod to alone serve as markers. The plan is to allow a clear landscape.

Action of the Assembly Judiciary Committee recently on the San Francisco cemetery bills, by which it was planned to park and build roadways through the unused burial grounds of the metropolis, was believed to have definitely disposed of the cemetery disputes before the legislature. The committee decided to let the bills rest in committee.

The Jacksonville (Fla.) Railway & Light Co. has proposed to try an experiment in the way of running automobiles from South Main street at Greenwood avenue to Diamond Grove Cemetery and return, to connect with the street cars. A universal transfer system will be inaugurated in connection with the automobiles and a person may ride to the cemetery from any part of the city the street cars touch for a 5-cent fare. Conductors on the cars will give transfers good on the auto line and the auto driver will give transfers good on the street cars.

John Mueller has been appointed sexton of the Naperville Cemetery, Naperville, Ill.

Announcement was made recently that the estate of Albert F. Holden, of Cleveland, Ohio, will be devoted, after the death of his two daughters, to establishing in Lakeview Cemetery a mortuary arboretum, land set aside as a place of honor for the burial of illustrious dead, and to be developed into the best example of landscape gardening and trees and plant development of any grounds used for burial. Fifty acres of the easternmost portion of Lakeview Cemetery have been set aside for this purpose. A fortune is to be spent yearly to make this arboretum and Lake-

view Cemetery among the most beautiful in America. Eventually the sum to be expended annually on the arboretum will exceed \$200,000. It is to be filled with the most hardy and most beautiful plants, trees and shrubs that can be found. The contract between the Lakeview Cemetery trustees and the trustees of the Holden estate provides for burial in the arboretum of "only those illustrious dead who have deserved well of nation or state, and for the erection to them of such monuments and memorials as may seem fitting and proper to the persons having charge and control of Lakeview Cemetery, the expense of such monuments and memorials to be met by such funds as may be available therefor from any source." The contract further provides that the arboretum "may be used for such tablets, cenotaphs and memorials of such dead as have deserved well of the city of Cleveland, as may seem fitting and proper to the persons then having charge and control of Lakeview Cemetery."

F. E. Muzzy, of Springfield, Mass., on a recent visit to his old home town, Geneseo, Ill., selected a site in Oakwood Cemetery upon which to erect a memorial chapel, and donated a liberal sum for that purpose.

Kansas City, Mo., recently started suit against the Union Cemetery Association in the Circuit Court to collect \$2,138.66 for the maintenance of that part of Main street lying in front of the cemetery grounds.

The thirty-first annual meeting of the shareholders of the Mound Grove Cemetery Association, Kankakee, Ill., was held recently. W. R. Hickox was elected president and C. F. Whitmore secretary.

An ordinance regulating the arrangement of stones, foliage and graves in the South Pleasant View Cemetery, Kewanee, Ill., and fixing the charges which shall be made for lots and for maintenance was passed by the City Commission at a recent meeting.

From Cemetery Reports.

The annual meeting of the Lakewood Cemetery Association, Lake City, Minn., was held February 8, and C. A. Hubbard, G. H. Lange and R. H. Neal were elected as trustees for three years. At the meeting of the trustees, February 20, H. A. Young was elected president and H. F. Jones superintendent. Following is the recapitulation of the annual report: Total amount received, \$2,278.73; total paid out, \$2,278.73; total assets February 1, 1915, \$18,226.79; gain for the year, \$568.40.

The annual report of Forest Hills Cemetery, Jamaica Plain, Mass., for the year 1914 sets forth the following statistics: General Fund—Income: From sale of lots and graves, \$30,404; care of lots and graves, \$13,271.10; perpetual care fund, \$37,600; total, \$99,371.39. Expenditures: Construction, \$13,818.40; care of lots and graves, \$47,528.76. The increase in the perpetual care fund is \$35,672.19, making a total of \$1,197,375.68, and in the permanent fund \$9,719.78, making a total of \$158,607.89.

Mount Royal Cemetery Co., of Montreal, Canada, recently issued its annual report for the year 1914. Some of the statistical statements shown in this report are as follows: Receipts: Mount Royal Cemetery, \$72,871.07; Hawthorndale, \$3,715.25; balance from December, 1913, \$5,715.84; total, \$82,301.16; total expenditures for both cemeteries, \$73,376.33; balance in bank, December, 1914, \$8,924.83.

The eighty-third annual report of Mount Auburn Cemetery, Boston, Mass., was recently issued by the trustees of this corporation. The business of the corporation has been very prosperous during the past year, as shown by the treasurer's report. It states that in the general account there is a cash balance of \$42,535.21 and in the fund for repairs \$18,798.36.

The annual report of the Woodlawn Cemetery, Boston, Mass., describes in detail the rules and regulations and the by-laws governing this cemetery. Some of the facts shown by the treasurer's report are as follows: Receipts: Cash, January 1, 1914, \$7,971.55; sales of lots and single graves, \$25,264.32; total, \$84,671.64. Disbursements: Repair fund, \$25,551.06; maintenance fund, \$620; cash, December 31, 1914, \$10,049.23; total, \$84,671.64.

Cemetery Officers Elected.

The Cemetery Improvement Co., of Fort Smith, Ark., has elected C. E. Speer president and C. W. Hughes secretary.

The Rapidan Cemetery Association, of Rapidan, Minn., has elected Mrs. T. O. Garberg president and Mrs. Chas. Bartsche secretary.

The Maquon Ladies' Cemetery Association held their annual meeting at Maquon, Ill., recently, and elected Mrs. T. C. Bearmore president and Mrs. Elsie Hartsook secretary.

At the meeting of the Marion Cemetery

Tarvia

*Preserves Roads
Prevents Dust*



Phelps Grove, Springfield, Mo.

Roads that do not wear out—

MACADAM roads disintegrate by various processes. Traffic destroys the surface, pulverizing and loosening it so that it blows away in the form of dust. When the top coat of screenings is thus destroyed, the road has lost its roof, and water, instead of being shed quickly to the gutters, penetrates into the lower layers of larger stone and does endless damage.

Under heavy loads ordinary macadam undergoes a certain amount of internal movement which is very destructive. The stones below the surface, grinding against each other under great pressure, exert a mutually abrasive effect, resulting in a general disintegration and breaking-down.

The modern way to protect roads against such wear is to bond them with Tarvia.

Tarvia is a dense, viscid compound of coal tar. It fills the voids between the stones and forms a tough, plastic matrix. On the Tarvia surface thus formed automobile wheels do not damage, since the tenacity of the Tarvia is great enough to resist the traffic.

Used in the interior of the road, Tarvia keeps the stone in its proper position and prevents internal shifting, rubbing and grinding. These two results of the use of Tarvia bring about great economies in maintenance.

A tarviated road lasts so much longer and needs so little care that the cost of Tarvia is more than compensated for.

Booklets on request.

BARRETT MANUFACTURING COMPANY

New York	Chicago	Philadelphia	Boston	St. Louis	Cleveland	Cincinnati	Pittsburgh
Detroit	Birmingham	Kansas City	Minneapolis	Salt Lake City	Seattle		
THE PATERSON MFG. CO., Limited:		Montreal	Toronto	Winnipeg	Vancouver	St. John, N.B.	Halifax, N.S.
						Sydney, N.S.	



Association, Marion, O., the following officers were elected: S. E. DeWolfe, president, and Charles N. Phillips, secretary and treasurer.

The following were elected trustees of the Belvidere Cemetery Association, Belvidere, Ill., at a recent meeting: E. T. Gage, S. L. Covey, and John Barnes, the former as president.

At the annual meeting of the lot owners of Hope Cemetery, Galesburg, Ill., Dr. John Van Ness Standish was elected president and A. A. Sigsbee secretary.

The directors of East Side Cemetery, Omaha, Neb., elected J. H. Campbell as president and D. A. Moore as secretary-treasurer.

The Marseilles Cemetery Association, Marseilles, Ill., held their annual meeting recently and elected A. L. Trager president and Flora M. Borough secretary.

New Cemeteries and Improvements.

The Lyons Commercial Club Road Committee, of Canton, Ia., has arranged for further improvements on the cemetery road. The road was recently macadamized and repaired by the county, but will now be oiled.

An organization has been formed by the women of St. Patrick's Catholic Church for the purpose of taking in charge and caring for Mount Olivet Cemetery, Livingston, Ill.

Oak Hill Cemetery, Atchison, Kan., is being greatly improved. The driveways are being graded and repaired, water mains laid in all parts of the cemetery, and the sexton's house remodeled. About \$800 is the total expenditure.

Five hundred feet of four-inch water main is to be put in the northeast corner of the new addition to Greenwood Cemetery, Canton, Ill., by the Cemetery Board. The board is also contemplating installing same hydrants, a catch basin, several hundred feet of sidewalks and concrete curbing.

Sunnyside Cemetery Association, of Elkhart, Ind., has purchased fifty acres of land for a new cemetery which will contain 8,000 lots and provide burial space for 48,000 persons.

The Spring Grove Cemetery Co., of Colorado Springs, Colo., has filed incorporation papers with the Secretary of State. The incorporators are Eli Clayton, James H. Bruce and Eli Sawyer, and the company is incorporated for \$100,000. The company proposes to have a new cemetery north of Colorado Springs.

Bird Creek Cemetery Association, of Kingfisher, Okla., was recently incorporated by F. S. Mosher, George Byers and G. K. Honeous.

The cemetery trustees of Riverside Cemetery Association, Sterling, Ill., are improving that cemetery.

It has been suggested that the city of McPherson, Kan., take over the cemetery belonging to the McPherson Cemetery Association.

The city is planning to assist the Glenwood Cemetery Association, of Virginia, Minn., in making extensive improvements in that cemetery.

Plans for the beautification of Oak Hill

OHIO CEMETERY ASSOCIATION TO MEET.

The annual meeting of the Ohio Association of Cemetery Superintendents and officials will be held at Dayton, June 9 and 10. Headquarters will be at the Phillips House and the first session will be called to order at 1:30 p. m., June 9.

An interesting program has been arranged and it is expected that the meeting will be the largest and most enthusiastic ever held.

J. A. Reed, of Canton, is president of the association, and E. A. Sloan, of Marion, secretary-treasurer.

Following is the program:

Wednesday, June 9, 1:30 P. M.—Prayer, Rev. Father W. D. Hickey; welcome address, Mayor G. W. Shroyer; response, J. C. Dix, Cleveland, O.; roll-call; application and reception of new members; president's address, J. A. Reed, Canton, O.; reading of secretary's report; communications; payment of dues and fees; paper, "Ornamental Shrubbery," J. E. Freudenberger, landscape gardener, National Cash

Cemetery, Battle Creek, Mich., and especially the part that is still undeveloped, have been made by Swain Nelson & Sons Co., landscape gardeners of Chicago. Included in their plans is a very artistic bridge over the railroad tracks and leading to the tract of land south of the cemetery which has been purchased by the board to provide for future growth.

Register Co.; discussion of same; paper, "Rebuilding Worn-out Lawns," Lake View Cemetery Association, Cleveland, O.; discussion of same; address, Dr. D. F. Garland, Director of Welfare, Dayton, O.; question box; appointments of committees, Auditing, Location and Resolutions; nomination of officers for coming year.

Thursday, June 10, 8:30 A. M.—Paper, "The O. A. C. S. & O., What It Is," Chas. Crain, Tiffin, O.; discussion; report of delegate to national convention at St. Louis, 1914, by President J. A. Reed, Canton, O.; question box; paper, by Karl Kern, assistant superintendent of Spring Grove Cemetery, Cincinnati, O.; discussion; report of committees; unfinished business; new business; election of officers; luncheon at Phillips House; talk by Chas. Wuichet, Dayton, O.

After lunch, take automobiles for ride and inspection of Calvary and Woodland cemeteries, Hills and Dales and the National Military Home.

NEW PUBLICATIONS REVIEWED.

The National Conference on City Planning announces the issue of a Classified Selected List of References on City Planning, by Theodora Kimball, librarian of the School of Landscape Architecture at Harvard University. Forty-eight pages; paper. Price, 50 cents. The list consists of about 1,000 references on city planning, selected from many times that number with a particular view to their professional value to those engaged in problems of city planning. The references are arranged according to the comprehensive analysis of city planning, by which the city-planning collections of the Harvard School of Landscape Architecture are classified. In this way Miss Kimball is making a presentation of the literature of city planning in its fundamental relations not previously attempted. The titles refer to material which

is useful and available, representative, well illustrated, or suggestive of further material or particular points of view. Inquiries should be addressed to National Conference on City Planning, 19 Congress street, Boston, Mass.

Warren H. Manning, the landscape architect, Tremont Bldg., Boston, Mass., has just issued the first number of "Billerica," a brochure to be devoted to a complete study of the landscape of a broad area of country and town. The first issue is devoted to the North Shore, Illinois, from the Skokie to the lake, including parts of Chicago, and the towns of Evanston, Wilmette, Kenilworth, Winnetka, Lakeside, Glencoe, Ravinia, Highland Park, Highland, Fort Sheridan, Lake Forest, Lake Bluff, North Chicago and Waukegan.

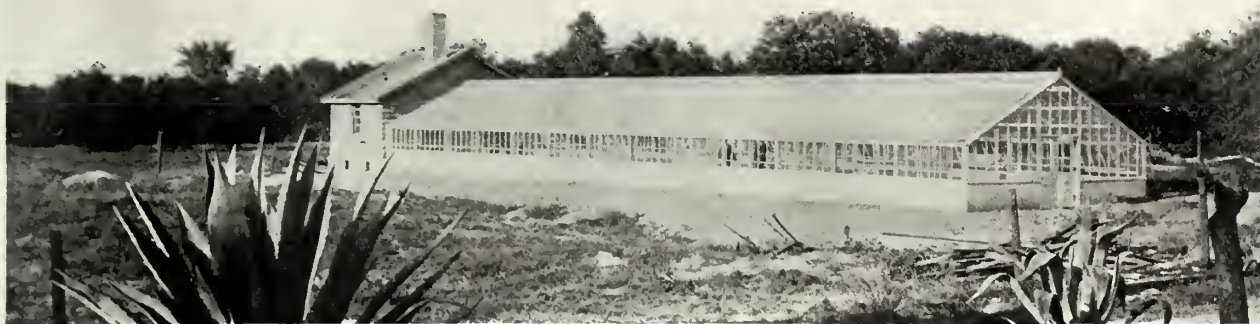
THE COVER ILLUSTRATION.

There are many interesting combinations of entrance gates and posts that can be designed with brick or stone posts, and the illustration on the front cover of this issue shows a very ornamental yet dignified and massive effect secured by the use of brick posts, with stone bases and caps.

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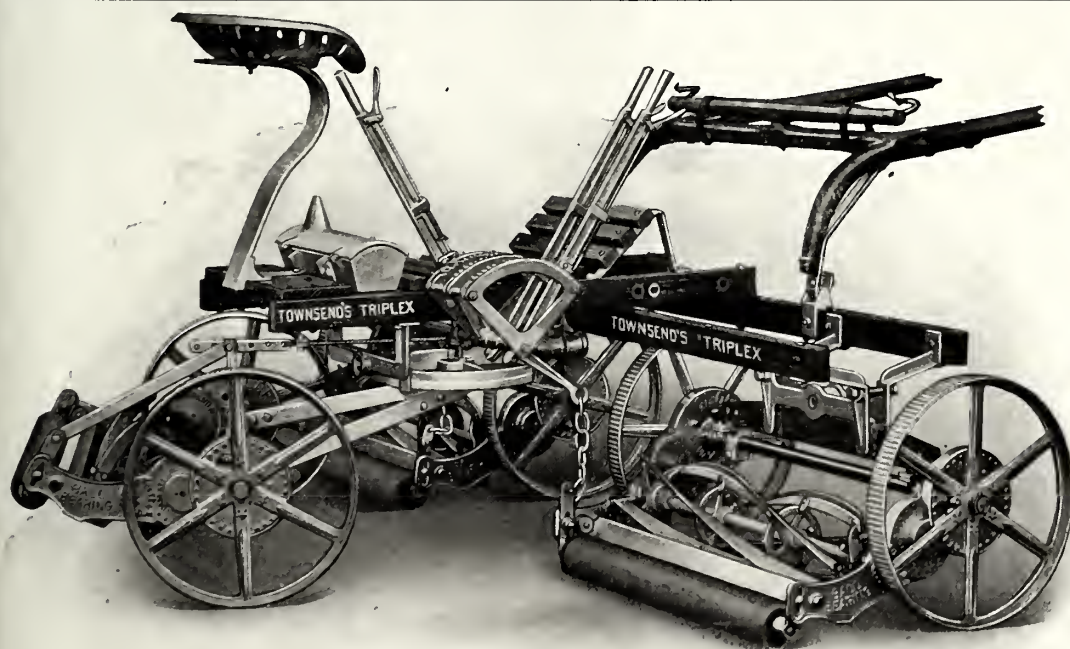
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O. H. SAMPLE, Editor.

Sworn to and subscribed before me this 18th day of March, 1915.

[Seal]

M. J. STANTON,

Notary Public.

(My commission expires Dec. 8, 1918.)

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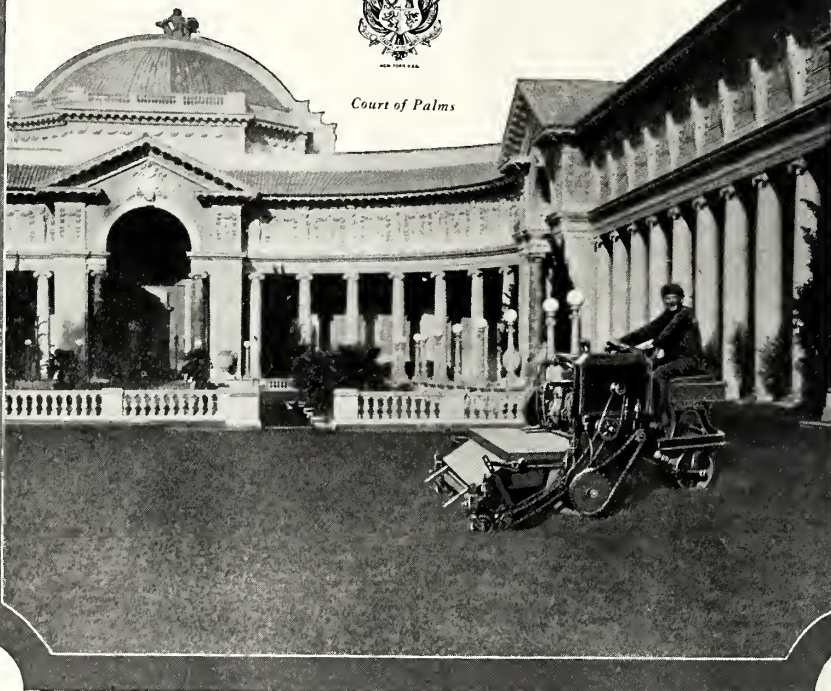
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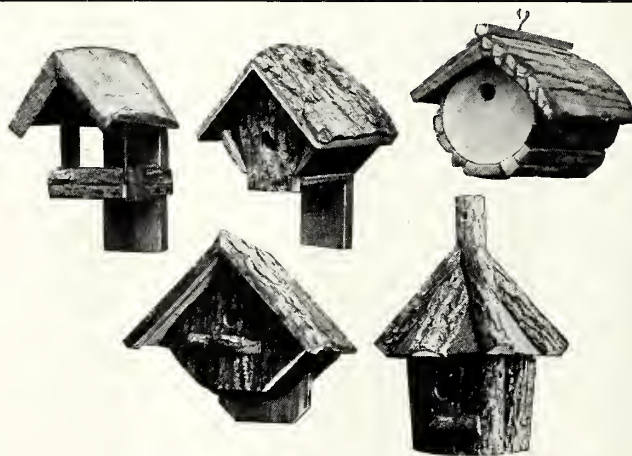
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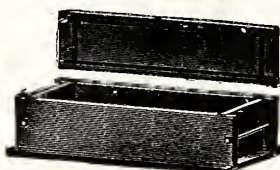


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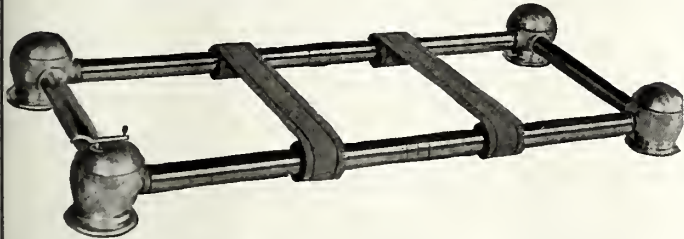
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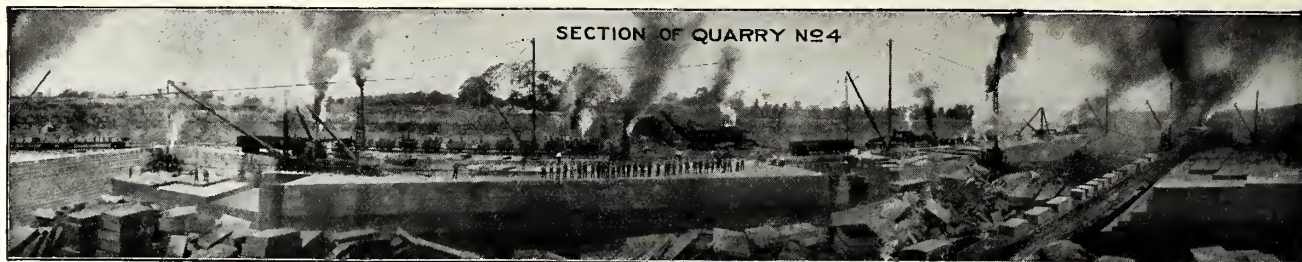
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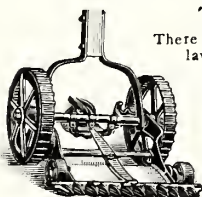
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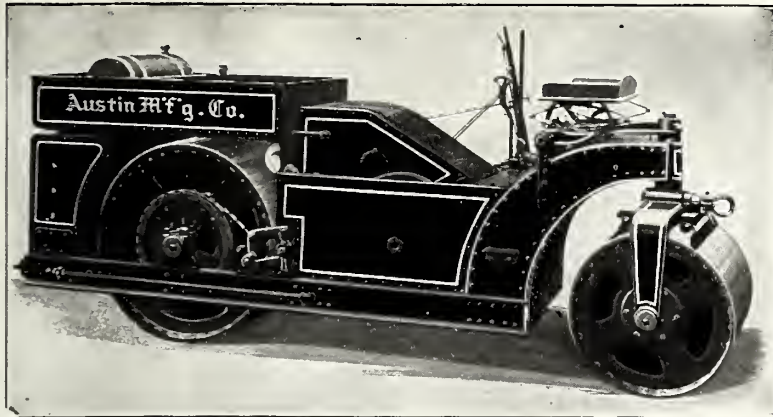
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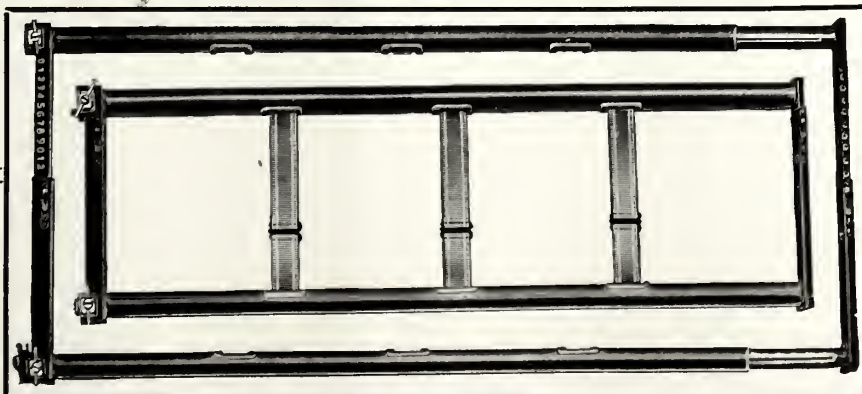
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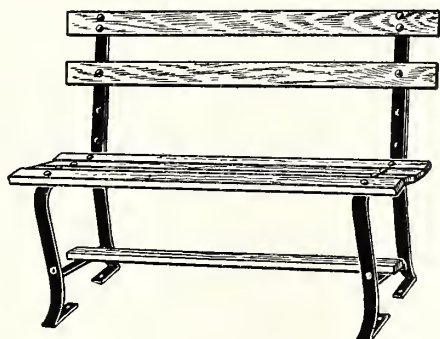
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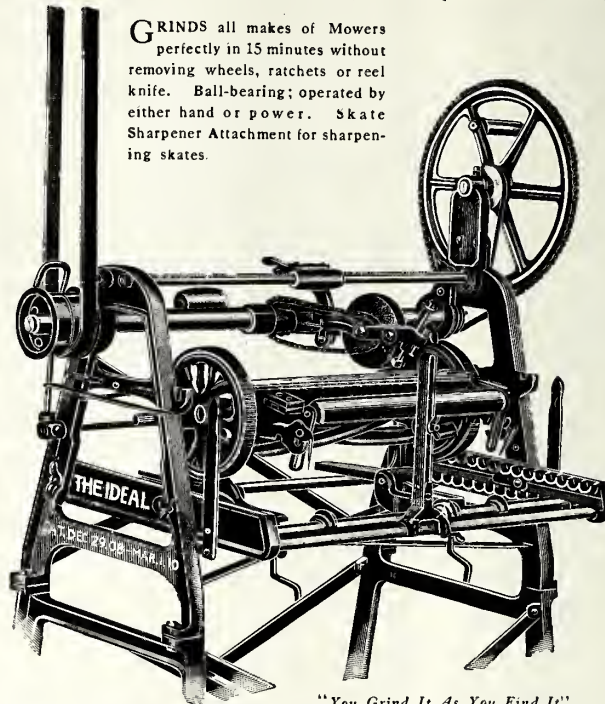
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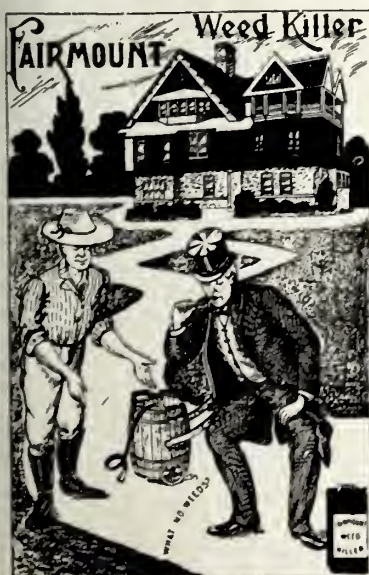
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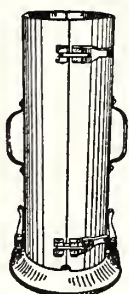
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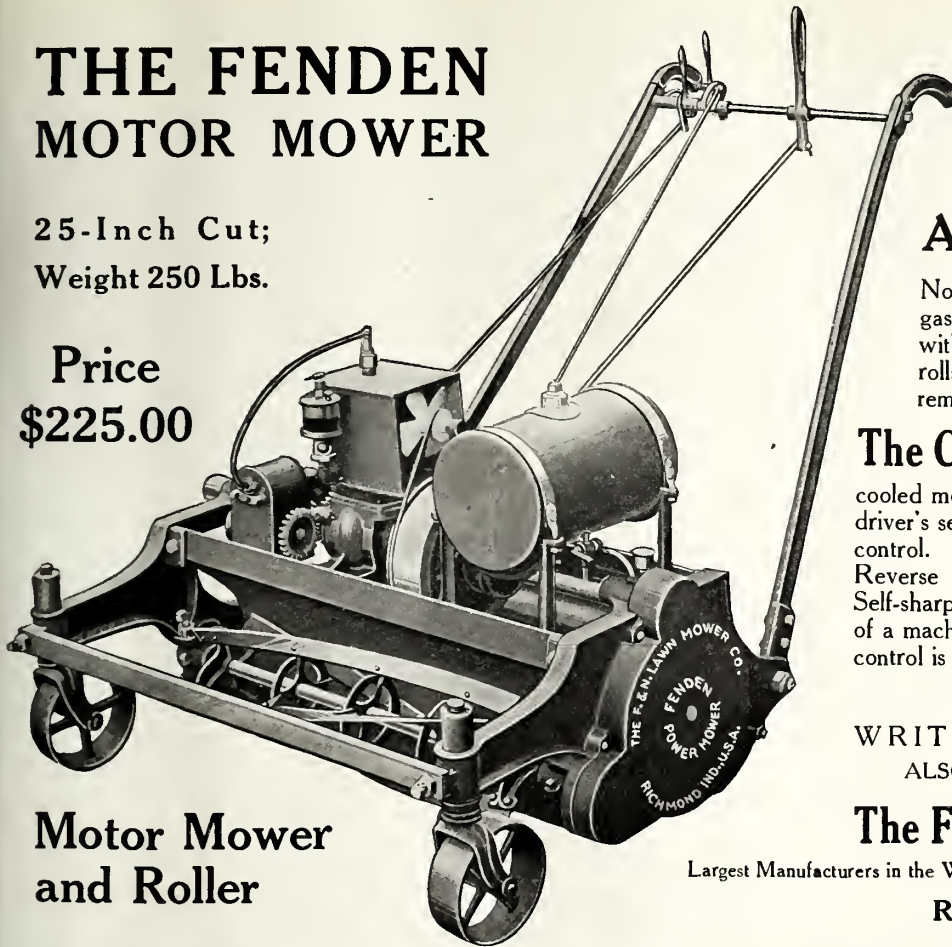
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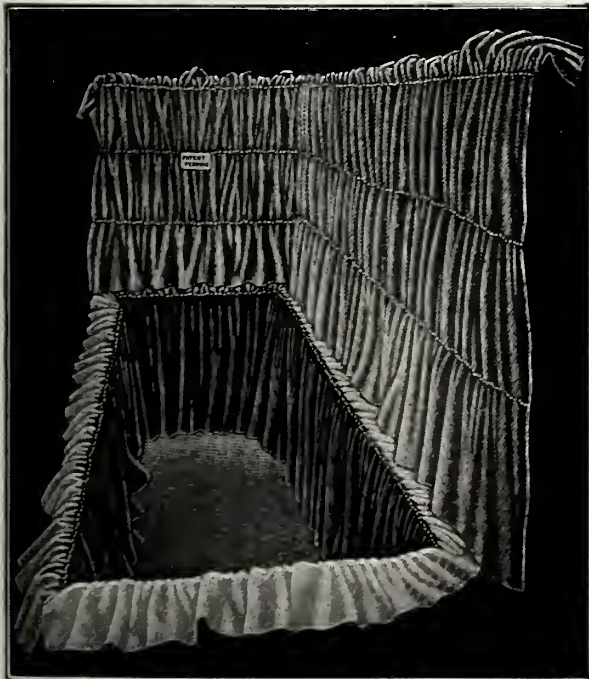
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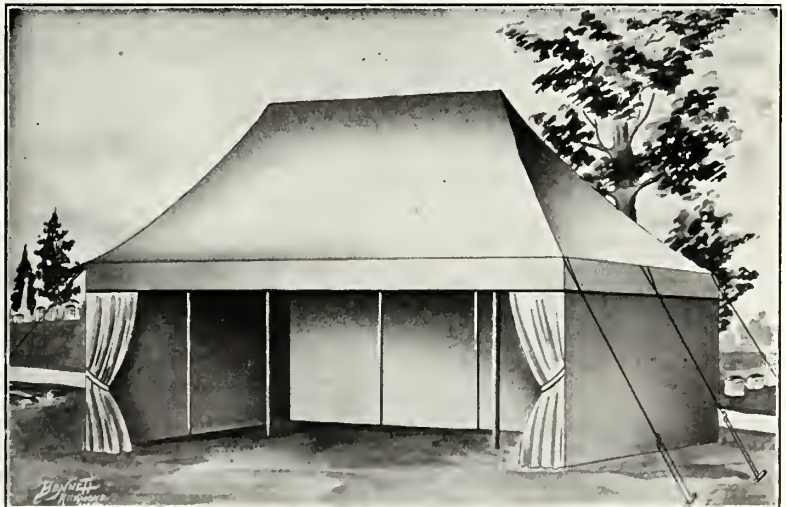
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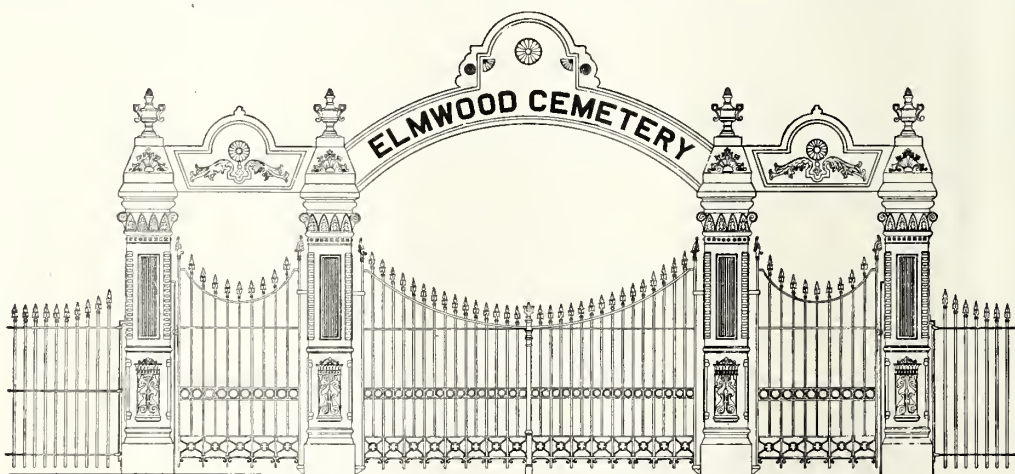
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JUNE, 1915

SPECIAL FEATURES IN THIS ISSUE

Landscape Work at San Francisco Exposition—What to See on Trip to Coast—
Utilizing Natural Attractions in Cemetery Landscape—Tarvia Treatment of Old
Roads—Ridding the Lawn of Fox Grass—Organizing and Developing a Modern
Cemetery—Selling Cemetery Lots on Credit



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JUNE, 1915

EDITORIAL

VOL. XXV No. 4

Economy of the Lawn Plan Cemetery

The discussion of the laying out of lots and sections in our series of articles on the organizing and developing of a modern cemetery, on another page, calls forcibly to mind several aspects of the economic superiority of the modern lawn plan of cemetery layout over the old style of rectangular lots and many paths. As Messrs. Hare point out, it was customary in the old style burial ground to have paths on each side of every lot. The paths were usually made quite apparent, either by paving in some manner, or by depressing them below the general level of the lots. As a result of this system, 50 per cent or more of the land was occupied by pathways. The paths made unsightly gashes in the lawns, rendering care of lots very difficult, and there was no opportunity for a lot owner to get a continuous piece of ground more than one lot in extent without eliminating some of the intervening walks.

Later it was realized that there was no more necessity for a walk on all sides of a cemetery lot than for a street on all sides of a residence lot, but the elimination of the path as an apparent feature of the section was a later development. Therefore, the walk in the modern cemetery is more or less in the nature of reserve land, which will be used very little until the sections become so filled with graves that walking across the lots will be difficult. There is a growing tendency, especially in the cemeteries of some of the larger cities, to feel that it is not at all necessary that each lot have access to a walk; that one walk will serve three or four tiers of lots. In this aspect, as in many others, the modern lawn plan is not only the most beautiful and satisfying development of the ground, but the most economical and financially profitable as well.

Editorial Notes

Arrangements have just been completed between the authorities who have in charge the public parks and public schools of the city of Binghamton and the New York State College of Forestry at Syracuse University for the making of a complete shade tree census of Binghamton. The work is outlined and the necessary material and instructions are furnished by the State College of Forestry in such a way as to make the field work of distinct educational value to the pupils in the public high schools. The information gathered will be used in the preparation of a shade tree map for Binghamton. It is the plan of the New York State College of Forestry at Syracuse to extend this census taking of street trees by high school pupils throughout the state as rapidly as possible. This work by the pupils will, in many cities of the state, be the beginning of the proper planting and preservation of public shade trees.

Frequent inquiries are coming to the New York College of Forestry concerning black knot which develops upon the twigs and branches of several of our common trees such as oak, maple and hickory. These black knots give an unsightly appearance to the trees and often cause death to the branches. As a matter of fact, very little is known as to the cause of these knots, although probably insects have something to do with their formation. They are not caused by fungi, as in the case of many such knots or burls in the pine trees. Neither are they like the common black knot of cherry and plum, which is caused by a parasitic fungus. The Department of Forest Botany in the College of Forestry at Syracuse is making an investigation of these knots or tree tumors. The object of the investigation is to determine the distribution of the trouble, the kinds of trees that are affected, the loss or injury caused by them, and, if possible, methods of prevention. The college will be glad to have specimens of black knots upon all kinds of trees and from different parts of the state. The young or beginning stages of the knot are necessary for the determination of the cause of the trouble. Once the cause is known, a means of controlling it may be determined.

Little diagonal streaks or wrinkles across the grain of a piece of timber not only betray weakness, but sometimes indicate periods of stress through which the wood passed when it was growing. They may even be taken as a sort of check on the official record of wind storms, as in the case of some

lumber tested at the Forest Service laboratory at Madison, Wis. The marks are caused by what are called "compression failures," which occur when the fibers bend or buckle under a too heavy strain. In cutting up logs collected for experiments at the laboratory, it was noticed that these compression failures appeared on the north side of a number of trees which came from the same locality in Florida. By counting the annual rings of the wood, and from knowledge of the time when it was cut in the forest, it was decided that the compression failures must have been caused by a severe wind from the south about the year 1898. Inquiries were made in Florida and it was found that a hurricane had, in fact, swept over the region at the time indicated. The experiments have determined that the strength of a piece of wood may be seriously impaired by slight compression failures due to rough handling.

In St. Louis the executive work of the parks is vested in one Park "Commissioner," who is really the superintendent and manager of the parks. During a period of crippled municipal finances the Park Commissioner was unable to employ the services of a landscape architect, and the florists and gardeners, among others, started a petition for the appointment of a landscape architect to the office of Park Commissioner, so that the parks might not again be deprived of expert technical service. The newspapers took the matter up, and many strong expressions of opinion from other cities in favor of this plan were printed in the local press.

The New York State College of Forestry at Syracuse University is urging the municipalities of the state to take up public control of street tree planting and preservation in the same manner as public control is exercised over other street improvements. During the past year the college has made investigation of the shade trees in many cities and towns of the state including New York City, Syracuse, Binghamton, Amsterdam, Mount Vernon, Newburgh and Olean. It has been found that thousands of shade trees are dying along the streets of the cities, due to past mistake in selection of varieties and in spacing the trees at the time of planting, which has forced the trees to grow with weakened vitality, inviting decay by tree diseases and by the attacks of insect pests.

EXPOSITION HORTICULTURE and LANDSCAPE WORK

It is the claim of the exposition authorities that the out-of-door horticultural displays of the Panama-Pacific International Exposition at San Francisco have never before been approached. Every exposition in the past has had one feature which stands out from all the others and by which it is particularly remembered. At San Francisco that feature is the wonderful setting.

The exposition grounds are on the south shore of the Golden Gate, surrounded on three sides by the rising hills of the city. The land upon which the buildings stand is largely made. When it was decided that the exposition should be held in San Francisco, and after the site was selected, one million seven hundred thousand cubic yards of sand and silt were pumped into the fill. Upon the top of this was spread fifty thousand cubic yards of the finest loam and sixteen thousand cubic yards of fertilizer were cultivated in. This has made a seed bed which has every attribute necessary for the growing of the wonderful gardens.

Separating the grounds from the city is a wall twenty-seven feet in height, made of scaffolding, with flats of growing Mesembryanthem or ice plant. There are 8,800 of these flats, 2x6 feet, in the wall. A system of sprinklers was installed along the top of the wall, so that the plants shall have enough moisture to keep green during the whole year. The effect produced is very like the top worked hedges in the older gardens of Italy and the South of France.

The South Gardens are entered from the main entrance to the Exposition. To the left and right is the Horticultural Palace, with its beautiful glass dome, and the Festival Hall. Immediately facing the entrance is the Tower of Jewels, which rises 435 feet into the air and is decorated with 125,000 glass jewels.

Three sunken pools with large statuary groups and surrounded by travertine marble balustrades form the centerpiece of the gardens. More than 2,000,000 flowering plants have been set out in this area alone and the rotations have been so arranged that at all times there will be blooming varieties in all of the beds.

A quarter of a million yellow pansies and approximately a million tulips were in full bloom during April and May. Two hundred and fifty thousand jonquils, the same number of hyacinths and the same number of daffodils preceded them.

The beds are bordered by box, which is kept low by means of wire which is passed over the branches and held about six inches from the ground.

Between the South Gardens and the facade of the buildings is the Avenue of Palms, along which are four rows of palm trees. Beautiful green lawns border this avenue, while against the ivory tinted buildings are groups of trees and shrubs.

The trees have all been transplanted by the box method, which consists of building a heavy box around the roots, and at the end of about eight months of cutting the big roots and transplanting the box with the trees. Many of the biggest palm trees on the grounds were loaned to the exposition by public-spirited citizens of Cali-

fornia, and these will be re-transplanted when the exposition is finished.



LANDSCAPE WORK ABOUT THE PALACE OF FINE ARTS, SAN FRANCISCO EXPOSITION.

fornia, and these will be re-transplanted when the exposition is finished.

By this method many huge fir, eucalyptus, palms, orange, pine, Italian cypress and many other varieties were brought from all parts of the country and are growing along the paths and banked in the vistas.

Festival Hall is completely surrounded by gardens in which hydrangeas are used. The slope has been arranged so that the plants rise as the building is approached and the full benefit of all the bloom is obtained.

In connection with the Palace of Horticulture are the gardens planted by societies and seed men. In order to make these of the greatest interest and benefit, it was the aim of the department to have each garden planted to the variety for which the individual gardener was the most well known. In this way each of these gardens is a special exhibit of a specialty.

In the great central Court of the Universe is the sunken garden with its two great, luminous columns representing, respectively, the Rising and the Setting Sun. The plantings here are formal, being largely of lawns with heather, lilac and roses used as bordering shrubs.

The Court of Abundance is architec-

tured in the four niches in which is statuary representing the four seasons by the use of trailing asparagus and ivy from shelves located close under the eaves.

In the two minor courts of Flowers and Palms the flower beds are bordered by heather and box and many trained shrubs and small trees are used.

Along the shore of San Francisco Bay is the Marina, or Marine Gardens, which are very large and unbroken either by statuary or borderings. The main garden is a lawn several acres in size with the main plantings banked against the buildings.

Around the State Buildings and the Foreign Pavilions are gardens planted and planned by the owners of the sites.

The Japanese Gardens are very beautiful. They are four acres in extent and show the art as it is practiced in Japan. All of the settings, including the stones, the bridges, the ornaments and the workers, were sent direct to San Francisco from Tokio.

Within the Palace of Horticulture are extensive collections from the warmer climes. A large number of rare palms, including the bearing date and the bowl palms, are shown.

From the Philippine Islands has come a collection of over 3,000 orchids valued at

more than \$20,000. There are more than 300 distinct species in this collection. Many of these are shown for the first time, as they are known to grow only in the fever-laden air of the interior swamps, where it is impossible for the white man to live. This collection is by all odds the most important as well as the largest of this flower that has ever been made.

The exhibits in the horticultural department are divided into three sections: First, the conservatory, including all of the space beneath the mighty dome, and in the four rooms off from the main area; second, the economical section, in which are shown the horticultural products in their business relation; and third, the outside gardens, where many nations have displays and where well-known growers have entered flowers in competition for award.

In the outside display the Netherlands has an acre and a half in which are shown the many plant forms for which Holland is world famous. Particular attention has been given to hyacinths, tulips, daffodils, azaleas, rhododendrons and conifers. The Holland gardens are now in full bloom and present a glorious and glowing vista. Massachusetts has an elaborate garden in which carnations, dahlias, conifers and bulbs are featured. California also has a splendid garden in this section, as has Cuba. Here also is the international rose growers' contest, the grower being awarded a prize of \$1,000 who produces the finest new and hitherto unnamed rose. In this contest are entered growers from France, England, Ireland, America, Scotland and Germany, the latter nation being represented by Peter Lambert, whose shipment of roses, after pursuing a



TOWER OF JEWELS AND SUNKEN GARDENS SURROUNDING COMPANION FOUNTAINS SYMBOLIZING RISING AND SETTING SUN.
Great masses of Rhododendrons in bloom here in May, preceded by Hyacinths.

very devious route through the war zone, finally arrived at the exposition in splendid condition. There are about thirty varieties in Lambert's shipment. Among the individual growers of international fame who are participating are Arthur Cowee, of New York, noted for his gladioli; John Lewis Childs, of New York, also noted for gladioli; J. C. Vaughan, of Illinois; Bertrand Farr, of Pennsylvania, who has

163 varieties of iris; C. H. Totty, of New Jersey; Conard & Jones, of Pennsylvania, specialists in canna; Michell, of Pennsylvania, and C. C. Morse, of California, who imported an expert from Scotland to take care of the very magnificent garden which this concern has in the outside display.

It would be unfair, in considering the horticultural exhibits and landscape work, not to mention George A. Dennison, the chief of the department of horticulture, and John McLaren, the landscape architect and superintendent of Golden Gate Park. Mr. McLaren has collaborated with the architects of the buildings in much of his work and is entitled to high credit.

The Palace of Fine Arts is really the most artistic creation on the grounds. It faces a lagoon that was little more than a slough, around which Mr. McLaren has planted Monterey cypress, eucalyptus and other trees and shrubs that make a beautiful and artistic setting and charming vistas. The massive colonnades that rise from the very water's edge are considerably more than 100 feet high and the entire structure more than 1,000 feet long. The building in which the pictures and small statuary are placed is back of these groups of columns, as seen in the photograph. Replicas of the works of many of the best known American sculptors are artistically placed along the avenue in front of the Palace of Fine Arts or amidst the shrubbery at either end. The very appropriate manner in which much of this outdoor statuary has been placed is not only very effective, but strikes a new note in the exhibition of monumental sculpture.



DONALD McLAREN, ASSISTANT LANDSCAPE GARDENER, AND HIS UNIQUE WALL OF MESEMERYANTHEMUM WHICH ENCLOSES THE EXPOSITION GROUNDS.

WHAT TO SEE ON THE TRIP TO THE COAST

Those who journey to the California expositions this year will do well to arrange their itineraries with as much elasticity as their time and means will permit. It is possible to take an astonishing number of side trips from any of the larger cities to many points of interest well worth seeing. Naturally the park or cemetery man will be most interested in those things that per-

the city limits, now nearly twenty-four years ago, Mr. Noble organized his association and subsequently visited the principal cemeteries in the East in search of the most modern ideas in cemetery management. Many of the buildings in Cypress Lawn have been illustrated in *PARK AND CEMETERY*. These include a crematorium, columbarium, receiving vault, office and

birds of many other varieties add interest and beauty to the landscape. From forty to one hundred men are employed on these grounds.

Seattle's splendid park and boulevard system was recently written up in these pages. Hills, lake, sound and mountains provide a diversified setting such as few cities can boast of. The system includes



TWO ENTRANCES TO CYPRESS LAWN CEMETERY, SAN FRANCISCO.

The Gates connecting the Norman Towers lower out of sight during the day.

The White Birds are a flock of gentle turbot.

tain to his own special field. Although much has been printed about San Francisco's widely known Golden Gate Park, only the hem of the garment has been touched. It is truly a people's park, with a variety of uncommon features of more than passing interest. Park builders will find here an instructive object lesson, and genial John McLaren, who began the unpromising task of transforming the shifting sand dunes into a beautiful park nearly fifty years ago, is there to tell how he accomplished it.

The lengthy list of trees, shrubs and plants in Golden Gate Park reveals to what distant climes Mr. McLaren has gone for the material with which to carry out his plans. His latest work is seen on the Panama-Pacific International Exposition grounds, where for the past two years he has been preparing for the series of gorgeous floral displays and arboreal planting effects that have been the admiration of all visitors.

The cemeteries of San Francisco are mostly located along the Old Mission Road in San Mateo County, about ten miles from the city, lying between the San Bruno mountains and the coast range. Nearly a thousand acres of land are held by cemeteries in this vicinity. These include Cypress Lawn, Holy Cross and Mt. Olivet, with approximately 200 acres each; Woodlawn, Greenlawn, four Jewish, two Chinese, and Italian, Hungarian and Japanese cemeteries.

H. H. Noble, president of Cypress Lawn Cemetery Association, and his accomplished gardener, A. H. Davidson, were the pioneer lawn plan cemetery builders in California. When San Francisco began to agitate the subject of discontinuing interments within

waiting room, glass houses, etc., and the two stone entrances which are illustrated herewith. The receiving vault is marble lined and thoroughly lighted in every part through the glass roof. Palms and a profusion of flowers rob the place of every semblance of gloom. Much of the planting on the grounds is semi-tropical and will prove of interest to the visitor from the East. Other cemeteries in the vicinity are also conducted on the lawn plan and have their interesting features. For want of time the writer was unable to visit them.

En route to San Diego to see the Panama-California Exposition, referred to in these pages last month, travelers have had an opportunity to stop off at Los Angeles and see the interesting park system and several thoroughly up-to-date cemeteries. Those especially noteworthy are Hollywood, Inglewood Park, Forest Lawn, and Rosedale. Evergreen, the oldest cemetery in the city, is only partially on the lawn plan. Here, as elsewhere, flowers abound and palms and ornamental shrubbery are used liberally. Several of the cemeteries have crematoriums.

Nine miles distant, at Pasadena, are the famous Busch Gardens, which every superintendent will want to see. The gardens cover approximately eighty acres in an arroyo or canyon that ten years ago was a dumping ground in the rear of the principal residence avenue of the now justly famous city. The transformation is a tribute to the art of the landscape gardener. The terraced hillsides, called locally sunken gardens, have been planted with a wealth of ornamental shrubs and flowering plants from different parts of the globe. Peafowl, mocking birds, grackle and

thirty-four parks, nineteen playgrounds and twenty miles of completed boulevards and park drives that may well be regarded as one of the important factors in spreading the city's fame. Members of the Association of American Park Superintendents will spend a delightful day here en route to their convention at San Francisco.

Point Defiance Park, at Tacoma, is less than two hours away by water or rail. This park is still in the making from the plans of Hare & Hare, which were described in *PARK AND CEMETERY* some months ago.

In the recently completed Terwilliger Parkway Extension, Portland (Ore.) has a magnificent boulevard far above the city, that represents an outlay of approximately \$250,000. From this charming drive panoramic views of the city, rivers and mountains for miles around may be had. It recalls the delightful cliff drive at Kansas City, although the altitude is much higher. The plans for the Portland park system were made by Olmsted Brothers some years ago and have been carried out in part under the direction of Emil T. Mische, who is now the city's consulting landscape engineer.

No cemetery visitor, and particularly members of the A. A. C. S., should fail to see Riverview Cemetery, Portland. Seldom is a name for a cemetery more appropriate. The drives which wind around the hillside several hundred feet above the city command magnificent views of the Willamette River and surrounding country. The steep hillsides are densely wooded with native trees and shrubs which form an effective screen between the cemetery proper and the main road which forms one

boundary. Fine specimens of *Cupressus Lawsoniana pendula*, *Sequoia gigantea* and *Wellingtonia*, *Cedrus deodora* and other evergreen and deciduous trees and shrubs abound. The cemetery comprises about 250 acres of land which have been in course of development for thirty-five years from the plans of O. E. Schwagerle. Superintendent Theo. E. Anderson, who came West several years ago from Danville, Ill., is happily domiciled in a handsome new

home near the entrance and deserves to be congratulated on the improvements he has brought about, as well as for the excellent conditions of the grounds when they were seen by the writer in May. Howard Everts Weed, known to many of the readers of this journal, has established a well-stocked nursery at Beaverton, a short distance from the city, on land that three years ago was covered with forest trees. Mr. Weed is also supervisor of school gardens in

Portland. Reference is made to the parks of Spokane elsewhere in this issue.

A side trip from Los Angeles that combines trolley and autos and requires a day takes in Riverside, with its beautiful drives, the famous Smiley Heights Park at Redlands, and other interesting places of less note en route.

This is indeed the year of years to see the beauties of the Pacific Coast and the railroads have certainly made unusually attractive rates. R. J. HAIGHT.

PARK SUPERINTENDENTS AT SAN FRANCISCO

The seventeenth annual convention of the American Association of Park Superintendents will be held in San Francisco, August 18, 19 and 20.

The opening date, August 18, will be devoted exclusively to business sessions, morning, afternoon and evening, while the two succeeding days will be given over to inspection tours and social functions.

Inasmuch as the Society of American Florists and the National Association of Gardeners have set their convention dates for the same week in San Francisco, the three organizations will undoubtedly bring together a tremendous gathering of men engaged in these professions.

The landscape features of the San Diego exposition were described in our last issue and those of the San Francisco exposition are illustrated and discussed elsewhere in this issue.

The Park Superintendents' Association, in an effort to have as many as possible travel westward together, is arranging for a special train from Chicago through to San Francisco via the Pacific Northwest, which is conceded to be a scenic wonderland.

The party will assemble at Chicago on August 8 and stopovers are planned at Minneapolis, Glacier National Park, Spo-

kane, Seattle, Tacoma and Portland, where elaborate entertainment features will be provided by local authorities at no expense to the party except at the National Park. Members and friends and relatives of kindred societies will be invited to join the party. No specific return route is being planned, as the length of time to be spent at the San Francisco and San Diego expositions is so much of an individual matter dependent on time and means, and a return route via Colorado or the South is an open question for individual decision.

Further details may be had from Secretary Roland W. Cotterill, Seattle, Wash.

A. A. C. S. CONVENTION IN TWIN CITIES

The annual convention of the Association of American Cemetery Superintendents will be held in the Twin Cities, August 24 to 28. The first three days will be given up to meetings and sightseeing in Minneapolis and the fourth day to St. Paul.

Headquarters will be at the West Hotel, where the following rates will prevail:

Rooms: Single, without bath, \$1, \$1.50, \$2; double, without bath, \$1.50, \$2, \$2.50; single, with bath, \$1.50, \$2, \$2.50, \$3; double, with bath, \$2.50, \$3, \$3.50, \$4.

Cafe a la carte, popular prices: Club breakfasts, 25 to 80 cents; club luncheons, 40, 50 and 60 cents.

The local committee is planning to print a very fine souvenir program containing views of the parks, cemeteries and other points of interest in the Twin Cities, and mail them to all members of the association.

President Thomas Wallis, Rosehill Cemetery, Chicago, will be pleased to receive any suggestions from members in reference to papers. These will have to be in by July 1.

The Convention Committee for the Minneapolis convention is as follows: A. W. Hobert, Lakewood Cemetery, Minneapolis, Minn.; Wm. Eurich, Hillside, Minneapolis; J. P. O'Connor, Calvary, St. Paul, Minn.; H. M. Turner, Rose Lawn, St. Paul; F. D. Willis, Oakland, St. Paul. Bellett Lawson, Jr., superintendent of Elmwood Cemetery, River Grove, Ill., is secretary of the association.

Editor PARK AND CEMETERY: Owing to the unusual rush of Decoration Day work the committee in charge of the Minneapolis convention has not been able to complete plans for the program for the Minneapolis convention.

However, arrangements have progressed far enough to make it certain that there will be three days in Minneapolis, one of which will be devoted to sightseeing, and one day in St. Paul, making a four-day convention in all. The dates are as originally announced, namely, August 24, 25, 26 and 27.

The following gentlemen are down on the program for papers:

Karl Kern, of Spring Grove Cemetery, Cincinnati. "How to Eliminate Unsightly Objects Without Giving Offense to Lot Holders."

James Currie, Forest Home Cemetery, Milwaukee, "Proper and Legitimate Sources of Income for Cemetery Corporations."

T. H. Little, Mount Hope Cemetery, Chicago, "Advantages and Disadvantages of Deferred Payments for Lot Sales."

Professor Washburn, of the Minnesota State Agricultural School, "Bugs and Insects."

By a representative of Swift & Co., a paper on fertilizers.

Several other gentlemen have promised papers, but the titles are not ready at this time.

It might not be amiss to have members

of the association send to the secretary any questions they wish to put in the question box.

BELLETT LAWSON, JR.,

Secretary and Treasurer.

A number of members will undoubtedly want to continue to the coast for the exposition and visits to cities between, and will be interested in the following schedule of railroad fares that will be in effect during the summer. There will be on sale round-trip tickets with a final limit of three months from date of sale, not to exceed December 31, 1915, permitting stopovers at any point in either direction, at the following rates:

	From		
	Chicago	Los Angeles	
To San Francisco, Los Angeles, San Diego, Oakland and return One Way via Seattle or Victoria	\$ 62.50	\$80.00	To San Francisco, Los Angeles, San Diego, Oakland and return One Way via Seattle or Victoria
Return via Direct Route	57.50	75.00	
	59.25	76.50	
	50.00	67.50	
	50.00	67.50	
	63.85	74.45	
	81.25	98.75	
	98.80	116.30	
	95.20	112.70	
	101.20	121.70	
	67.10	85.00	
	76.20	93.70	
	73.50	91.00	
	70.25	88.40	
	71.18	91.85	

The landscape features of the San Diego Exposition were described in our last issue and in this number the aspects of the San Francisco exposition of interest to our readers and some of the other points of interest in the coast cities are described and illustrated.

ORGANIZING and DEVELOPING a MODERN CEMETERY

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City Mo.

VI.—Lots and Lot Sections.

In the last chapter the road system was discussed as a necessary means of access to the lot sections, and in turn the factor that, with due regard to the size and topography, determined the form of the sections.

Just as the roads give access to the sections, the individual lots must have ready means of approach from the roads.

Formerly in many of the old graveyards it was customary to have paths on each side of every lot. The paths were usually made quite apparent, either by paving in some manner, or by depressing them below the general level of the lots. As a result of this system 50 per cent or more of the land was occupied by the pathways; the paths made unsightly gashes in the lawns, rendering care of lots very difficult, and there was no opportunity for a person to acquire an uninterrupted piece of ground more than one lot in extent without eliminating some of the intervening walks, and thus starting a custom which led to confusion.

Later, it was realized that there was no more necessity for a walk on all sides of a cemetery lot than for a street on all sides of a residence lot, but the elimination of the path as an apparent feature of the section was a later development still; in fact, in some large modern cemeteries there is a custom still in vogue of defining some of the more important lots by paved walkways. The results are seldom pleasing.

Therefore, the walk in the modern cemetery is more or less in the nature of reserve land, which will be used very little until the sections become so filled with graves that walking across the lots will be difficult. As the walks are not an apparent feature of the design as seen on the ground, it is futile to try to make ornamental figures or schemes out of the arrangement of the walks and lots on the plan. To be sure, they look quite "pretty" on a drawing, but usually result in lots of irregular and unsuitable shape. An exception to this may be in the case of a group of lots designed for a lodge or society, in such a way that the arrangement of graves will make the scheme apparent. This would be true in a portion of section 7 of the accompanying plan of two blocks in Graceland Cemetery, Racine, Wis. This portion of the section could be screened by planting from the remainder and made a unit with a central monument and radiating graves.

There is a growing tendency, especially in the cemeteries of some of the larger cities, to feel that it is not at all necessary that each lot have access to a walk; that one walk will serve three or four tiers of lots. Just how far this form of economy

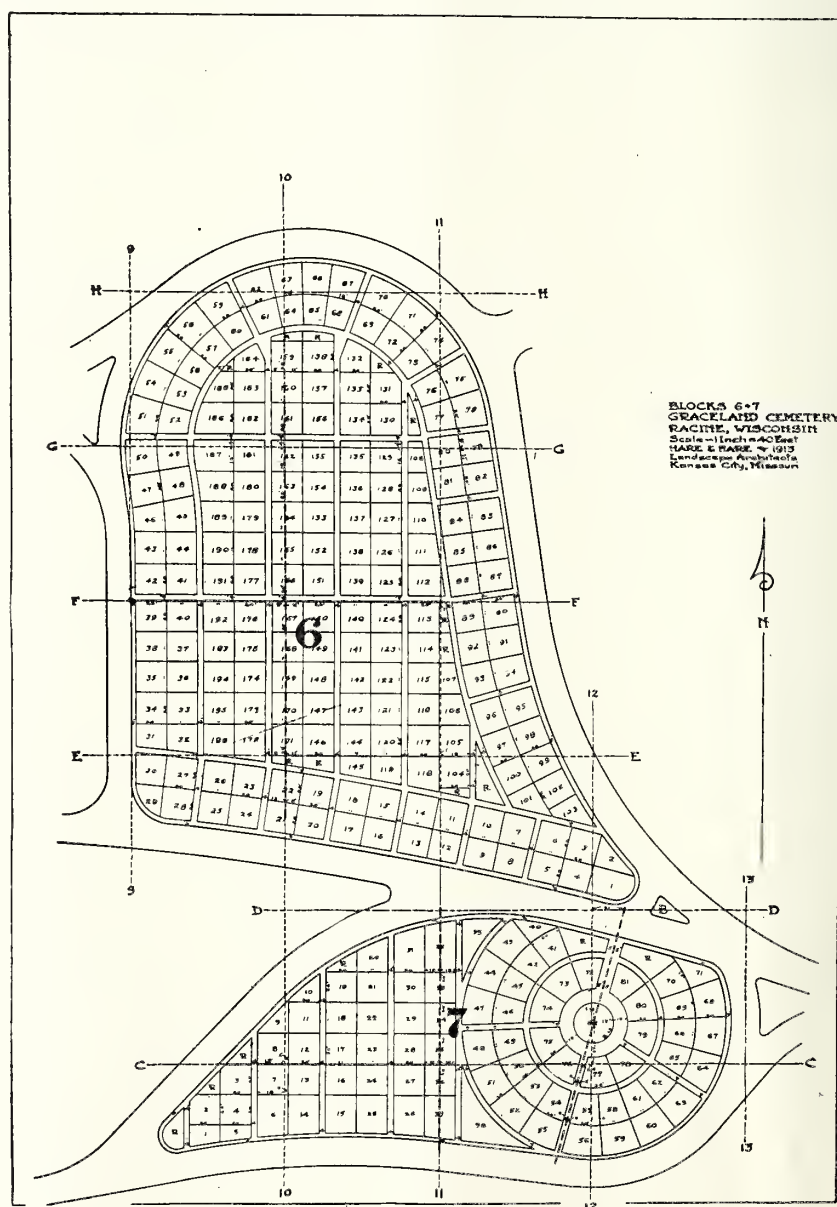
can be carried is difficult to say. It hardly seems worth while to go to extremes. In the case of single graves or fractional lots, frontage on a walk cannot be expected.

Where the roads follow circuitous routes to gain good grades, a certain number of paved walkways for pedestrians through the sections as cross-cuts may be desirable. These walks should be designed with the same care that the roadways receive as regards adjustment to the ground in plan and profile. About the entrance and chapel and connecting the various buildings, walks are quite necessary. Aside from this, the driveways will be just as useful for pedestrians as for vehicles. A well-constructed road forms a very satisfactory walk in all weather, and as the traffic in a cemetery is

not fast moving or congested, there is little danger from walking in the roadways.

A width of five feet for the walks or reserve strips through a block is ample for the pallbearers on each side of a casket. Four feet is in use, and is probably sufficient in most cases, as there is some margin between the grave and the lot lines. It is well to have these spaces wide enough to allow a cart to pass through, for removing the surplus earth from the grave. Much wider walks can be left under unusual conditions.

A direct route from the road to the grave is desirable, therefore the main walks should lead across the sections rather than lengthwise. It will be seen that the roads follow the contours of the ground so far



LOT SUBDIVISION OF TWO SECTIONS IN GRACELAND CEMETERY, RACINE, WIS.

Showing relation of lots to the base lines and the arrangement of regular and irregular lots along the roads.

as possible, and the width between roads is determined by the reasonable distance a casket can be carried from the hearse. Therefore the walks should be at right angles to the roadways, which, in case of rolling land is up and down the hill. Where the land is very precipitous some special arrangements will have to be made. If the topography or general direction of slopes changes considerably within any section, the walk and lot arrangement should change to suit it.

With this arrangement the graves can be located with the foot or head toward the walk and thus will be level; that is, the length of the grave will follow the contours of the ground.

Everyone knows that irrespective of the slope of the land the bottom of the grave is level, yet our sentiment on such matters is such that a grave which has a sharp pitch, especially if the head is down hill, presents a very unpleasant appearance.

The square or rectangle is the most reasonable form for the lots, as they have to accommodate a certain number of rectangular graves or monuments. As was said before, a great number of lots of irregular shape, so often seen in cemeteries designed on so-called modern lawn plan, represent a certain loss of land. Moreover, the difficulties of engineering and of recording the lot system are greatly increased.

Therefore, the greater portions of the blocks should be composed of regular lots. In the case of the secondary roads, these lots can run out to the road line, that is, to the edge of the reserve strip of three to five feet which it is desirable to have next the paving. A number of irregular spaces will result, some of which can be included with the adjoining lot; others used as reserve spaces for planting on the road borders. On primary and important roadways the lots will be more valuable if arranged in a double tier following the road lines. Here all graves would face the roads. The irregular spaces in this case would

then occur at the back of this double row of lots, at the point of break into the regular lots. These are again often useful for planting as a background for the monuments along the road.

Larger reserve spaces in the centers of the block for plantings are often made and in a general way are good. Sometimes, however, a more effective scheme will result by taking lots here and there for this purpose, as will be discussed later.

In addition to the planting spaces in the lot sections certain large areas such as whole blocks perhaps, including lakes, should be devoted to lawns and planting without any land for sale. Land adjoining the entrance should be kept free from graves for perhaps 200 to 300 feet.

The size of the lot is a subject open to much argument and one we will make no attempt to settle. The local conditions and demands of the class of people it is intended to serve should be studied in each case. The size should be based upon the number of graves intended and the size of the grave units. The box for an adult is usually about two feet by seven feet on an average, and the extremes would probably be about three feet by eight feet. Allowing for a head marker and a slight margin, ten feet is the usual space for the length of each grave. Forty to forty-eight inches in width will allow a reasonable space between graves, and either five or six graves to twenty feet. Therefore a lot twenty feet square will contain from ten to twelve graves spaced at convenient distances. This number is more than sufficient for most families. A half foot lot (or a unit half this size) will provide five or six graves, and a quarter lot, three graves.

It is often advocated that the lot should be two or three feet longer than wide, the extra space being for a monument. In the first place, monuments are not in such universal use now as formerly, and only a certain percentage of the people erect them. This extra space, then, is a useless tax on

all the people for the sake of a few. Moreover, few lots are ever completely filled and the space of one or more graves can be used, or the extra space resulting from infants' graves. It may be assumed that a person intending to erect a large or elaborate memorial will be able to acquire a suitable amount of land to display it. The very wealthy in the large cities often buy as much as 10,000 square feet or more, and in cemeteries making provision for this class of people some lots should be provided of extra size with suitable restrictions. Again, if the predominating demand is obviously going to be for a small lot, say ten by twenty, or for single graves, such provisions should be made.

Under ordinary circumstances, however, there is much to be said for a more standard lot unit. The lot sections should be planted several years in advance of being placed on the market. This planting, at least as regards shrubbery, should bear a close relation to the lot lines. It is often impossible to predict several years in advance just what the demand will be at the time the section is opened. Therefore, with a standard unit of, say, twenty by twenty feet, it is a very simple matter to place such restrictions as seem desirable on each section at the time it is placed on sale; in places, nothing less than four lots may be sold; in other blocks, whole lots, half lots or quarter lots; or even certain lots may be set aside to be sold as high-class single graves. Single graves of a cheaper class are best arranged in a more compact form in a section or area given over to them. Long rows of various sizes, with or without paths between the rows, is the usual method.

The base lines of the original survey referred to several times will be very convenient in locating and recording the lot arrangement in a very definite manner, so that there can be no question as to the exact location of each lot in the future. This can be seen in the illustration.

TARVIA TREATMENT OF OLD ROADS

Thanks to the genius of Macadam, there was a long period in recent history when the road easily withstood the vehicle. The smooth, hard macadam road, however, invited the development of the automobile and still more recently the motor truck, and macadam roads were doomed to swift and general destruction.

Now, however, the road is getting the better of it again, thanks to the development of the modern, bituminous binders.

Many of the old macadam roads do not require rebuilding and processes have been developed for applying tarvia to the old surface in such a way as to preserve them from the ravages of modern traffic. In building new roads or rebuilding the old, tarvia binders are used which are so strong

that the stones are held in place despite all the efforts of traffic to dislodge them.

It is now ten years since these modern binders were introduced into this country and the experience of many communities runs back over the whole period. In Newton, Mass., for instance, there is a section of Newton boulevard which was treated nine years ago with tarvia at a cost of 14 cents per square yard. The cost of maintenance of the whole Newton boulevard, subsequently all treated, comprising five miles of the heaviest traveled automobile road out of Boston, sixty feet wide, has been brought down to \$1,200 per year. This includes cleaning and all work done on the surface of whatever nature.

Cleveland, O., has a stretch on Bellflower

road which was put down in 1905. It has been in service ten years.

Many other towns experimented with tarvia in the early days and have now settled down to the use of this material as a fixed policy.

Plainfield, N. J., is one of these, and it now has thirty-six miles of well-kept, tarviated road, the result of a consistent and economical policy that was inaugurated in 1908.

Another town is Westfield, N. J., with upwards of nineteen miles of smooth roads that have been maintained and made dustless with tarvia at a very low cost.

Important parks and cemeteries have adopted tarvia for their roads. The tarviated roads are clean enough and dry enough to use as walks and at the same



WEST WEBSTER STREET, CHILLICOTHE, MO., BEFORE TAR- SAME STREET AFTER TARVIA TREATMENT.
VIA WAS USED.

time the surface will withstand the transportation of heavy monuments. Graceland Cemetery, in Chicago, began in 1909 to tarviate its roads, and now has completed the treatment of its entire system.

Government engineers have been using tarvia largely in the roads about Washington, the White House driveway having been maintained with this material since 1911.

Undoubtedly the use of tarvia-reinforced roads is still only in its infancy. The auto-

mobile has already spread over the continent and the motor truck is fast following. The latter is already a serious problem in England and in some of the most congested centers of the United States.

The more efficient the motor truck becomes the larger loads it will carry, and the greater will be the burden it imposes on the roadway. Motor bus and jitney, which threaten to become a serious competitor of the street car, also bring their

problems. The public, since it maintains the right of way gratis, is interested in furnishing the new traffic-proof surfaces.

Accordingly, it is easy to prophesy that plain macadam without bituminous treatment will become everywhere a thing of the past as it has already in many localities. Unfit for modern traffic, it must be discarded in favor of roads that are firmly united by some plastic bituminous binder like tarvia.

SELLING CEMETERY LOTS ON CREDIT—VI

Symposium of Methods and Forms Used by Many Cemeteries in Lot Sales and Collections.

We sell lots on credit under a contract and note which read as follows

This Agreement, made this..... day of 19...., between the Riverside Cemetery Association, a corporation duly organized under and by virtue of the Laws of the State of New York, having its principal place of business at the City of Rochester, N. Y., of the first part, and..... residing at No..... Street, Rochester, N. Y., of the second part,

WITNESSETH: The party of the first part agrees that in consideration of the sum of one dollar to it in hand paid, the receipt whereof is hereby acknowledged, it will, upon the payment of the consideration hereinafter named, sell and convey by a good and sufficient warranty deed, a plat of land in said Cemetery, located in the Town of Greece, County of Monroe and State of New York, and designated upon a map of said cemetery grounds on file in the office of the party of the first part, as Lot No., in Section....., Block No., said lot containing not less than..... superficial feet.

The party of the second part agrees that upon the execution and delivery of this agreement,..... will pay to the party of the first part the sum of dollars; and that will pay the coupon notes hereto annexed, as they become due, amounting to the sum of dollars; being the balance of the purchase price of the plat of ground hereinbefore described, including the interest on the deferred payments. And the party of the second part further agrees, and the deed to be given as above specified shall expressly provide, that will use said plat for burial purposes only, and that will neither sell said plat nor any part thereof, without first having duly obtained the consent of the said party of the first part; nor shall have the right to transfer

or assign any interest therein under the agreement, without the like consent.

IN CONSIDERATION of the payment of..... dollars upon the execution and delivery of this agreement, it is agreed that the party of the first part shall permit the second party to make one interment upon said plat of land, before the delivery of the deed thereof, as hereinbefore provided, but upon the express condition, that in the event of the failure on the part of the party of the second part to pay each and all of the coupon notes hereto attached at the time when they shall become due, the said party of the first part shall have the right to enter upon said plat of land, and to disinter any body or bodies theretofore interred upon said lot, and to transfer said body or bodies into another lot or single grave or graves, as the case may be, and deduct from the portion of the purchase price paid, a sum sufficient to fully pay for said lot or grave or graves, together with the expense of disintering and transferring said body or bodies, and the expense of putting the lot hereinbefore described into proper condition for resale, and the surplus, if any there shall be, after the payment of the price of said lot or grave or graves, together with the expenses above mentioned, shall be returned to the party of the second part, executors, administrators or assigns. It being expressly understood and agreed that the signing and delivery of said coupon notes by said second party to said first party shall not be regarded as in any sense a payment on said lot or this contract, but that when such note or notes are paid the cash so received shall then be credited as a payment under the terms of this agreement.

This agreement is made, and the deed hereinbefore contracted for shall be made under, and subject to all the rules, regulations and restrictions provided in the by-laws and rules of the said party of the first part.

AND IT IS EXPRESSLY AGREED that this agreement shall not entitle the party of the second part to the possession of said lot or plat as vendee,

until the purchase price thereof, including the amount of all coupon notes given for any part of such purchase price, shall be fully paid.

IN WITNESS WHEREOF the parties to this agreement have hereunto set their hands and seals the day and year first above written.

RIVERSIDE CEMETERY ASSOCIATION,

by Treasurer.

FORM OF NOTE.

Rochester, N. Y.,..... 19....
M.....

Dear
We beg to advise you that your note for \$..... (including interest) will be due and payable at the Alliance Bank 19....

To avoid expense and inconvenience of placing note with bank, kindly pay same at our office at cemetery, any day previous to above date.

Respectfully,

Riverside Cemetery Association.
(On making payment, please present this notice)

The number of lot purchasers who have discontinued payments on these contracts is nominal, although, as might be expected, many have renewed their notes more than once. We have never resorted to any other means to collect arrears on these contracts than personal persuasion by correspondence and interviews. We have never removed a body from a lot because of non-payment of amount due on lot, neither do we know of any such instance. I do not know the law of this state on this point.

At the present time we have a body in our receiving vault which I have refused to bury on a lot purchased on the credit plan because of arrears in payments. It is understood the undertaker is responsible for the receiving vault charges.

I am convinced that the selling of cemetery lots on the credit plan is correct, providing the initial payment is one-half or at least one third of the purchase price of lot.

F. SHEARD,

Supt., Riverside Cemetery.

Rochester, N. Y.

When lot holders discontinue payment, we send them a notice reading as follows:

NOTICE

Fitchburg, Mass., 1902.
The time limit of the contract between the Cemetery Department and yourself in the sale of Lot No. has expired and you are requested to make immediate payment.

Should I not hear from you within thirty days it will be deemed sufficient evidence that you wish to surrender all claim to said Lot.

Per Order of Cemetery Trustees,
..... Supt.

We have had very good success with this method. We have removed bodies from partially paid-for lots and believe the state law allows this under a signed contract. Our contract of sale reads as follows:

CITY OF FITCHBURG CEMETERY DEPARTMENT

AGREEMENT.

This Agreement to convey in Forest Hill Cemetery Lot No. 9999 made this twentieth day of November, 1914, by and between the Trustees of Public Burial Grounds of the City of Fitchburg, Mass., and John Doe.

Witnesseth: That said Trustees, in consideration of the sum of one-half of price of lot with the price of burial to be paid upon the delivery of this agreement, and the further sum of one-fourth of balance to be paid within one year from the date, in quarterly payments, agree with the said John Doe, his heirs and assigns, that they will, as soon as full payment is made, cause a deed of said lot to be executed in the form used by the City of Fitchburg in the conveyance of burial lots, and deliver to said John Doe, his heirs and assigns.

It is agreed by and between the parties of this contract, that upon the payment of the first sum mentioned, the said John Doe shall be permitted to use, occupy and improve said lot, but a failure to make full payment within the time above agreed upon, shall of itself work a forfeiture of every right of said John Doe, his heirs and assigns, in and to said lot, and shall empower the said Trustees to enter upon said lot and remove therefrom any body or bodies therein buried, the same to be reburied at some suitable place, the expense of which shall be taken from any sum that may have been paid by virtue of this agreement, and the balance, if any remain, shall be refunded.

It is also agreed that this lot shall not be sold for speculative purposes or transferred without consent of the Trustees.

In Witness Whereof, we have hereunto set our hands and seal, this day of 19.....

..... For Trustees.

W. A. LOWE,

Supt., Forest Hill Cemetery.

Fitchburg, Mass.

Our cemetery is a city cemetery, controlled by the City of Manchester, under a Board of Trustees, elected by the city government. Our lots are sold at so much per square foot, including endowment. We

have a form, or rather certificate, which the purchaser signs at the time of purchase. This reads as follows:

PINE GROVE CEMETERY.

Manchester, N. H., 191....

In consideration of Dollars, the receipt of which is hereby acknowledged, permission is granted to to bury one body on lot numbered as shown upon the plan, situated upon

This amount, so paid, will be allowed by the Treasurer, upon the surrender of this receipt, toward the payment for said lot, upon the delivery of a deed. The body buried under this permit is subject to removal for noncompliance with the following agreement:

For the Treasurer of Committee on Cemeteries, Read Restrictions before making improvements on lot.

I, the above-named in consideration of this permission, hereby agree to take a deed of the lot above specified within three months from this date, and pay for the same in full at the rate of cents per square foot, with interest at 6 per cent from date; and, failing in this, any bodies buried upon the lot may be removed to the public burying grounds, and the lot conveyed to other parties and no claim shall be made for the refunding of any portion of the money which I have paid.

The amount paid down is optional with the purchaser, but nothing less than \$10 is accepted. You will see by the blank that the first payment allows one burial to be made before the deed is taken. Failing to take a deed within three months from the date of purchase, the body can be removed to the public burying ground. Of course, there is a question whether or not this would hold in the courts, but since we have no trouble in enforcing this rule we see no reason to worry.

We have had lot purchasers who failed to continue payments and forfeited their lot, but in the twenty-two years I have been connected with Pine Grove Cemetery there has been one case where we have had to remove the body to the public ground. Should a purchaser be unable to continue payments, we have been able to make some arrangement with him whereby he can surrender the lot and take a single grave. We find this answers very nicely. Of course, we sometimes have to get after delinquents, but, as I have said before, we have very little trouble after notifying them.

J. H. ERSKINE,

Supt., Pine Grove Cemetery.

Manchester, N. H.

We have had lot holders discontinue payments before lot was fully paid for, and endeavor to collect by continual dunning, both by mail and personally. The result was varied, but generally successful, except in rare cases. We have had to remove a body from a partially paid for lot. As to the law on this point, we are not prepared to give a definite answer. We have adopted this course in a few isolated cases in which we have been unable to accomplish any result whatever by ordinary letters, personal application, or after usually several final notices that this action was to be taken. In each instance also the ac-

counts were of a number of years standing; in a majority of the cases all trace of the original purchaser or of the parties interested was lost.

Our contracts with lot owners are covered by the clauses in the regular contract or agreement of sale used by us, which reads as follows:

An Agreement made this day of 190... between the Cedar Lawn Cemetery Company, of the first part, and of the second part.

Witnesseth, that the said party of the first part agrees to sell unto the said party of the second part Lot No. in Section No. so designated on the map of the said Cemetery, in the possession of the party of the first part, for the sum of Dollars, and the said party of the second part agrees to buy said lot, and pay to the said party of the first part therefor the sum of Dollars, in manner following, viz.: Dollars, on the execution of these presents.

..... with interest. And the said party of the first part agrees upon receiving the said sum of Dollars, at the time and in the manner above mentioned, to execute and deliver to the said party of the second part, a Deed for the conveying of the said party of the second part, the said lot, subject to the conditions and limitations, and with the privileges therein to be specified, and that said party of the second part may have the immediate possession of the said lot, subject to the conditions, limitations, rules and regulations of the said Company. And the said party of the second part further agrees that in case the said payments or any of them should remain unpaid for the space of thirty days next after the same shall have become due and payable, that the said party of the first part may repossess said lot, and remove all bodies that may have been interred therein to any lot in said Cemetery that may be appropriated to that purpose; and that all payments which shall have been made on account of said lot shall be forfeited.

In Witness Whereof, the said Cedar Lawn Cemetery Company have caused this agreement to be signed by their Treasurer, and their Seal affixed, and said party of the second part has hereto set his hand and seal, the day and year first above written. Signed, Sealed and Delivered in presence of Treasurer.

It is our custom to require the payment of one-third of the purchase price before an interment is allowed.

CEDAR LAWN CEMETERY.

M. L. McLeod, Sec.

Paterson, N. J.

* * *

Our formal contract reads as follows:

LAKE VIEW CEMETERY ASSOCIATION.

No. \$..... This Agreement, made this day of 191... between the Lake View Cemetery Association, party of the first part, and party of the second part,

Witnesseth, That said Association doth hereby sell to said party of the second part, Lot No. in Section No. in the Cemetery Grounds of said Association, Cuyahoga County, Ohio, at and for the price of Dollars, payable as follows: with interest, at the rate of six per cent per annum, payable annually; when so paid said Associa-

tion hinds itself to make to said party of the second part the proper certificate or deed of ownership for said lot.

AND IT IS EXPRESSLY AGREED, That upon failure to make said payments, as above stipulated, or either of them, that said Association may remove the bodies interred in said lot to any public grounds used for that purpose, and re-sell said lot without repayment of any installments before made under this Contract, to any person willing to purchase the same, and thereupon all rights of said party of the second part under this Contract shall cease and determine.

IT IS FURTHER STIPULATED, That in case of failure to pay the whole or any installment of said consideration money, such legal proceedings may be had to compel payment as are usual in the case of

ordinary land contracts, and if a judicial sale shall be had the Association to have the same right to remove the bodies as in the case of re-sale, without legal proceedings.

WITNESS, The signatures of the parties aforesaid, hereto affixed, the day and date first above written.

LAKE VIEW CEMETERY ASSOCIATION,

ByClerk.
.....
.....

The terms of our sale require half cash before burial is made and the balance is usually made payable within one year, un-

less the purchaser desires longer time, and draws 6 per cent interest.

We have very little trouble in collecting, and in only a very few cases since the organization of the cemetery have we found it necessary to take back a part of the lot and cancel the contract.

We sometimes give prospective purchasers options on lots, allowing them to make payments in installments.

FREDERICK GREEN,

Sec., Lake View Cemetery Assn.
Cleveland, O.

UNIQUE NATURAL FEATURES IN A CEMETERY

Two most interesting and probably unique natural features that have been skillfully utilized in the cemetery landscape are to be found in Cave Hill Cemetery, Louisville, Ky. The remarkable natural cave from which the cemetery takes its name is in the face of the bluff fronting the lake. Here the cavernous limestone which underlays the whole of the cemetery tract is exposed, and the effect of the carbonic acid in the rain and drainage water on this limestone is shown by the dissolution which has produced this cavern.

This is only one of the many evidences throughout this region of the existence of caves and fissures. The rock in which they are found is a different one from that of which Mammoth Cave was made. Along the banks of Beargrass Creek and its tributary runs is seen the best development of

that group of rocks of the date of the Niagara group of New York and of the upper Silurian rock.

It is called the chain-coral and upper magnesian cliff limestone. At the top of the quarries about Cave Hill Cemetery are found the work of different species of corals, and as these zoophytes cannot work at a less depth than 120 feet, it is evident that the rocks of Cave Hill were once at least 120 feet beneath the surface of a tropical sea. The surfaces of these rocks as shown in the caves on the hillside faces expose myriads of fossil remains which the geologist finds a never-ending source of interest and study. The cave itself, from which the cemetery takes its name, faces the west and presents an opening about 8x10 feet, and offers an unfailing spring of sparkling water which in former

days found its way through a deep valley to Beargrass Creek beyond.

Around its mouth the original growth has been allowed to grow and spread, while above it, on the hillside, the honeysuckle presents a tangled mass of luxuriant growth over the exposed portions of the outcropping rock.

Inside the cave itself it is seen that the water which began its erosive excavation worked upward as well as downward, as may be seen in the groove in the roof. When it had cut this vent it ceased working upward and worked downward through the limestone to the present level. The spring now flows through a narrow channel in the floor. Its waters come from the eastern portion of the tract, as was proven in early days by dropping chaff in some of the large sink holes in



FORMER SITE OF OLD STONE QUARRY, CAVE HILL CEMETERY, LOUISVILLE, KY.

that direction and having it reappear on the surface of the cave spring after a rainfall. The sink holes throughout this region were caused by the solvent power of carbonated rain water cutting out caverns, the roofs of which fell in making the series of basins which add so much to the landscape beauty of the grounds.

For many years the water of the lake filled the approach to the cave, but a few

The face of the quarry cliff has been covered with a variety of climbers such as wisteria, ampelopsis, honeysuckle, English ivy, trumpet vine, akebia, clematis, matrimony vine, vitis, bittersweet, actinidia, Dutchman's pipe, and euonymus. On the hillside above the rock is a plantation of shrubs, while at the foot of the cliff, and next to it, is a profusion of iris, larkspur, phlox, poppy and columbine.



SUPERINTENDENT'S OFFICE AND CAVE AT LEFT, CAVE HILL CEMETERY, LOUISVILLE, KY.

years ago a fill was made, making it possible to grade a lawn approach, the spring water being cared for through a drain. Almost opposite the cave, and across the lake from it, is the old quarry shown in the illustration. Originally an unsightly dump for waste earth, it has been transformed into one of the really beautiful nooks of the cemetery. Extending back into the hillside possibly 100 feet or more, the uneven face of the bare rocks at the rear presented a most uninviting picture. A spring, together with the usual seepage from the rock, made the bottom more or less inaccessible. The water was diverted into a drain and the bottom filled, graded and sodded.

Two beds of hydrangea, buddleia and hibiscus appear in the foreground, making a picture somewhat more attractive than originally appeared when the quarryman moved his derricks and ceased his blasting but a few years ago.

The unusual character of these two attractive bits of landscape work are in harmony with the rest of this section of the grounds. The broad surface of the lake interposes between them, its shores bordered with forest trees and clumps of ornamental shrubs, producing an ensemble which is not only pleasing to the artistic eye, but an example of the practical utilization of ordinarily unsightly features into the general plan of a rather large tract of land.

for the desired grass to receive its proper supply of food, or the improper application of moisture to the lawn during the growing season. A blue grass sward that has been properly established upon a well prepared soil containing a large percentage of clay will, if properly sown or sodded with pure, thick sod, be able to take care of itself to a great degree of ability and to resist the intrusion of the foreign grasses which may show a tendency to infest the lawn. A generous supply of nitrogenous matter and phosphorus substance are very essential in the preparation of lawn soils, as these two constituents of the soil provide most of the plant food for the permanent sward. They may be applied to established lawns in the form of well decomposed manure, preferably guano or sheep manure and a scattering of finely ground bone-meal, the former affording the required nitrogen and the latter the phosphorus, which through the action of the moisture in the soil become dissolved into a solution technically referred to as the "plant fluid," which is taken up by the grass through the actions of the root system. The blue grass which is most commonly resorted to as the standard lawn grass is one of the most drought-resisting of the lawn grasses and one of the chief causes for poor lawns is the practice of too constant watering in the growing season by artificial means. This is particularly true during the hot months of the summer, when rains are fewer and of shorter duration. The practice of too much watering has a great tendency to encourage the growth of the more succulent grasses, of which the fox grass is one of the more persistent and common to invade lawns, and if the blue grass is poorly established through lack of sufficient nutriment or prolific growth the foreign grasses easily find ample room for establishing themselves and, once established, spread with great rapidity at the sacrifice of the more desirable blue grass.

Where areas in the lawn have become so infested with fox grass as to be almost void of the blue grass, the most economical and satisfactory remedy is to take up the sod of the infested area, prepare the soil and reseed or resod with good clean seed or sod. Avoid too frequent and spare watering, but rather resort to occasional soakings after the ground has had an opportunity to cool off to considerable extent in the evenings after the sun has gone down. One good soaking of the lawn during the night will prove far more efficacious towards producing a perfect lawn of blue grass free from the infestations of foreign varieties than will frequent waterings applied during the day. In the hottest and driest weather a good soaking of the ground every two or three weeks is sufficient in most localities.

A. H. HELDER,
Landscape Architect.

Kansas City, Mo.

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department

Ridding Lawn of Fox Grass.

Editor Asked and Answered: We have quite a large lawn which we are trying to get in shape, and fox grass has taken possession of about one-fourth of it and seems to be spreading over the lawn. Will you kindly advise what is the best method to be pursued in combating same?—G. C. Cem. Assn., Pa.

The invasion of fox grass, or, as it is more often termed, fox-tail grass (*Alopecurus pratensis*), into lawns and extensive

greenswards receives its cause from several reasons. The selection of poor seed, the improper fertilization of the soil, the use of poor sod, where sodding is resorted to, and the improper care of the grass during its growing season.

Where a lawn has already become established and the invasion of fox grass becomes apparent, the cause is usually found to be either due to sparsely established nature of the permanent lawn grass, the lack of sufficient nutriment in the soil

Concerning fox grass, the most successful way to get rid of this pest is to dig it up, preferably before July. It seeds during July and August. It will ruin the lawn if allowed to stand. As it grows more or less in clumps it is comparatively easy to uproot.

CLARK & PIKE,
Landscape Engineers.

Willoughby, O.

Selling Abandoned Lots.

The ——— cemetery was started in 1857 and we now have some 300 lots from which we receive no compensation for care of, and it is quite a drain on our resources. The trustees have employed attorneys to find if we can legally take the unused parts of these apparently abandoned lots and sell the same to create a fund to perpetually care for them. We wondered if you could not give us some information along this line, perhaps put us in touch with some cemetery that has had the same experience and been through the courts with it.—O. C., Ia.

We have never had any experience of the kind. Our association gives quit claim deeds for all ground sold and we cannot legally sell the unused parts of neglected lots to create a fund to perpetually care for them.

J. C. CLINE,
Supt., Woodland Cemetery.

Dayton, O.

Where a cemetery company, owning land, sells or deeds a lot to a purchaser for burial purposes, or sells to a purchaser the perpetual right of burial in a lot, evidenced by the certificate delivered, as in our case, the cemetery company cannot thereafter take from the purchaser or his heirs the ground or the use of the ground sold. The purchaser has the same rights as the purchaser of any other title or interest in the use of land and is protected by the law. The burial of a body is the taking of actual possession of the ground and the possession cannot be interfered with, without liability for trespass. In addition to this, a cemetery company stands in the position of a trustee and as such is bound to protect the purchaser against the very acts suggested in your letter. A cemetery company in this city wanted to do what you suggested in your letter, but very wisely abandoned the idea.

ROBT. CAMPBELL,
Supt., Cave Hill Cemetery.

Louisville, Ky.

Ornamental Fountains.

Editor Asked and Answered: Our cemetery association wishes to place an ornamental fountain in the cemetery here. Where can I get a catalog of medium-priced fountains?—C. Cem. Assn., Ia.

James B. Clow & Son, who advertise fountains on another page in this issue, can furnish you with anything in the way of bubble fountains or ornamental fountains.

Starting Perpetual Care Fund.

Editor Asked and Answered: Ten years ago this association was formed and incorporated under the laws of this state. When we took hold of our cemetery it was very much run down and in a dilapidated condition—fences down and cattle running all over the grounds—so we bought from the party that had platted the ground all his interest and title and had it resurveyed, and enclosed it with a good, substantial iron fence at quite a large outlay. Have close to 500 lot owners who pay a yearly assessment of \$1.50 for the maintenance of the place, and, together with the sale of lots, have now accumulated in the ten years, after paying for necessary buildings and other expenses, \$3,500. Our intention is to continue in the future as in the past, until our reserve fund, which now stands at \$3,500, shall be of such an amount to make the cemetery self-sustaining. We are also selling perpetual care contracts, which augments our surplus or reserve fund considerably. As the majority of the trustees and officers of the association are getting old and feeble, we are earnestly thinking of making such provision for the future that our last resting place may be cared for with assurance for all time to come. This money we have on hand, with more added, was and will be all realized out of our burial ground, and we desire to arrange matters so that those who succeed us after we are dead are forever barred to disburse this money in any other way, shape or form than for the care and maintenance of the cemetery, for a rising generation might say, we must purchase new ground for a burial place and use our money for such purchase of new ground, leaving our old place

neglected and unprotected. We would be very thankful to you in giving us such advice as you think will absolutely cover the case.—M. Cem. Assn., Neb.

As near as we can advise you from the facts given in your letter, we should suggest that all of your lots be sold with perpetual care and that your prices be placed high enough so that the income would take care of every lot forever.

In addition to this, you should place as many of your old lots under perpetual care as possible by personal solicitation or advertising the advantages of this plan to your lot owners. This fund should be placed in trust with a trust company or board of trustees, so that it could never be used for any other purpose than keeping the ground in condition.

As to just how this is done would depend on the laws of your state governing this matter, and you should consult other cemetery officials in your state who have had experience in administering cemetery trust funds.

It will be advisable for you to have a report on your proposition from an expert landscape architect who has made a specialty of developing and managing cemeteries, and any of the landscape architects who advertise this service in PARK AND CEMETERY could give you much assistance.

Manufacturers of Crematory Retorts.

We would very much appreciate it if you could give us a list of people manufacturing crematory retorts. Thanking you for any information you may give us along this line.—I. M. C., Ill.

The Jarvis Engineering Co., 61 Oliver street, Boston, is the leading manufacturer of crematory retorts and builder of crematories.

FIGHTING TWO COMMON TREE PESTS

The conspicuous, unsightly nests or tents of the apple tree tent caterpillar are familiar objects in the spring in trees along roadways, streams and fences, in neglected orchards and elsewhere. Several methods of checking the depredations of this caterpillar are given in a new publication of the Department of Agriculture, Farmers' Bulletin No. 662.

The tent caterpillar feeds principally on wild cherry and apple trees, but will attack many other plants, and where such trees can be removed without disadvantage this should be done, thus lessening its food supply.

During the dormant period of trees, when the leaves are off, the egg masses are fairly conspicuous, and with a little practice may be readily found. It is then that they should be cut off and burned. Trees infested with larvæ during the early part of the year, or those in the immediate vicinity, are perhaps more likely to be chosen by the parent moth for the deposition of her eggs, and such trees at least should be

searched if it is not practicable to extend the work to the orchard as a whole. This work may be combined with pruning to good advantage and a lookout should be kept not only for the eggs of this insect, but for the eggs and cocoons of other injurious species which pass the winter on the trees.

When in convenient reach, the nests may be torn out with a brush, with gloved hand or otherwise, and the larvæ crushed on the ground, care being taken to destroy any caterpillars which may have remained on the tree.

The use of a torch to burn out the nests will often be found convenient, especially when these occur in the higher parts of trees. An asbestos torch, such as is advertised by seedsmen, will be satisfactory, or one may be made simply by tying rags to the end of a pole. The asbestos or rags are saturated with kerosene and lighted and the caterpillars as far as possible cremated. Some caterpillars, however, are likely to escape, falling from the nest upon

the application of the torch. In using the torch great care is necessary that no important injury be done the tree; it should not be used in burning out nests except in the smaller branches and twigs, the killing of which would be of no special importance. Nests in the larger limbs should be destroyed by hand, as the use of the torch may kill the bark, resulting in permanent injury.

Tent caterpillars are readily destroyed by arsenicals sprayed on the foliage of trees infested by them. Any of the arsenical insecticides may be used, as Paris green, Scheeles green, arsenate of lead, etc. The first two are used at the rate of $\frac{1}{2}$ pound to 50 gallons of water. Milk of lime from 2 to 3 pounds of stone lime should be added to neutralize any caustic effect of the arsenical on the foliage. Arsenate of lead is used at the rate of 2 pounds to each 50 gallons of water.

The chestnut bark disease has become so serious that in the opinion of the United States Department of Agriculture it is desirable to quarantine New England, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, Ohio, North Carolina, Iowa and Nebraska, or such portions thereof as may be found to be essential. A public hearing on this question was held in Washington at 10 o'clock on May 18. The proposed quaran-

tine will restrict the movement from this territory of chestnut nursery stock and chestnut lumber with the bark on.

The chestnut bark disease is comparatively recent in this country. Its origin is not absolutely known, but it is believed that it was brought in indirectly from China, where it exists also. In 1908 it was found widely distributed in the Hudson River Valley and in the vicinity of New York City. It is caused by a fungus which rapidly kills the native chestnut trees and is spread chiefly by the distribution of nursery stock. Once it has been established, however, it is spread locally by wind, birds and insects. Migratory birds may also carry the disease for long distances.

Since this disease is proving fatal to the native chestnuts in the infected area, it is quite probable that their place may be taken by chestnut orchards grown for the nuts in areas that have not as yet been infected and from which it is hoped that the proposed quarantine will keep out the infection. At the present time the native chestnut grows in practically all of the territory east of the Mississippi except a section of the coastal plain of the Southern states, the northern half of Maine, and parts of Illinois and Michigan. For two years after the tree has been killed by the fungus the timber remains valuable, but deterioration sets in after that time.

PARK NEWS.

Harry S. Gillespie has been chosen secretary of the Park Board of Virginia, Minn. The board has decided to erect a new band stand at Olcott Park.

The Board of Park and Cemetery Commissioners of Grand Rapids, Mich., have \$19,899 on hand of the \$90,000 appropriated for them last year, according to their report. The total receipts of the board from all sources amounted to \$128,703 against expenditures amounting to \$98,800. Reports from both Oak Hill and Greenwood cemeteries also show considerable cash on hand at the end of the fiscal year. An innovation in city forestry work is to be undertaken soon by City Forester Hugh E. Lynch under the direction of the Board of Park and Cemetery Commissioners. The change will involve taking the conservation work directly to the homes of the citizens of Grand Rapids.

The City Commission of Hutchinson, Kan., by unanimous vote recently adopted the ordinance providing for the bond issue of \$12,000 to pay for the land owned by J. L. Ward, which has been condemned for park purposes.

Citizens of Sioux Falls, S. D., recently voted to adopt the Park Board plan and

a Board of Park Commissioners will soon be appointed.

The Board of Park Commissioners of Indianapolis, Ind., recently issued their annual report for the fiscal year ending December 31, 1914. Perhaps the most noteworthy improvement made during the current year was Maple road, from Capitol avenue to Fall Creek parkway. This road is about 8,600 feet in length, consisting of a 40-foot roadway and a 30-foot lawn on each side. The pavement is asphaltic concrete on a six-inch concrete base. Two rows of sugar maple trees were planted on each lawn space and six-foot sidewalks constructed. The total cost of this improvement was \$114,533.98. Money was acquired under the Barrett Law, abutting property and property lying within 150 feet of the improvement being assessed.

The annual report of the Park Commissioners of New Bedford, Mass., for 1914 states that the work, care and maintenance of the parks has been much the same as in former years, but little new work has been accomplished, and that principally at Buttonwood Park. In this park a new road was constructed 960 feet long and 22 feet wide through the

woods to Hawthorne street. The total cost of labor in the building of the road was \$2,215.60 and material \$1,082.13.

As shown by the annual report of the Park Commissioners of Fitchburg, Mass., for 1914, small parks have been kept up to the usual standard, and at Cogshall Park the work was continued as long as means would permit. The dam has been completed, or nearly so, some roadways outlined and some extended. During the spring Longwood avenue will be extended to a new outlet in Mt. Elam road. Quite extensive improvements were also made in several of the playgrounds. At Daniels playground, on the ball ground a new wire backstop and two rows of benches for players and spectators were erected. New steel apparatus was installed at Goodrich playground and the entire ball field was graded and drained at Salem playground.

The annual report of the Forest Commissioner of Newton, Mass., describes some very interesting improvement work accomplished by that department during 1914. During the winter and spring the regular work was performed on removing brown tails and treating the nests of the gypsy moths. The past season was a very bad one for brown tail moths, as the flight of the summer of 1913 was particularly abundant. The 1914 flight was very small, however, and very few brown tails were discovered on the trees. During the spring a considerable amount of planting was done on the public grounds and small squares. Some 1,600 shrubs and about 50 trees were planted. Owing to the poor condition of the spraying machines and the delay in getting them repaired, not as much spraying was done as heretofore.

The fifth annual report of the Board of Commissioners of the Park District of Rockford, Ill., was recently issued. Many improvements were made, although no construction work of any magnitude was done. A 22-foot driveway leading from the main drive to the new shelter and back again was laid out and will be built this spring in Black Hawk Park. Many people took advantage of the golf course in Sinnissippi Park and a new well 411 feet deep was completed here.

New Parks and Improvements.

Consideration by the Park Board of Dallas, Tex., of a plan to make the city's property at Bachman's reservoir into a big, model park was asked by Water Commissioner A. C. Cason. It was suggested that swimming be allowed in the lake, that boating and fishing be allowed as at present, and that the land surrounding the lake be beautified. The board took the matter under advisement and promised to investigate.

The City Council of Wichita Falls, Tex., recently awarded the contract for curbs and gutters on the Thirteenth,

Fourteenth and Travis street sides of the new park at Thirteenth and Lamar streets, and also a sidewalk and driveway to L. M. McCracken, of that city. The work is to be done under the supervision of the city engineer.

A new athletic park is under construction on the Texas and Pacific reservation at Fort Worth, Tex. This was proposed by George W. Saam, physical director of the Young Men's Christian Association, and will be at the disposal of high schools and grammar schools to hold their athletic meets in. The ground within the enclosure provides for enough room for two baseball diamonds, six tennis courts, a basketball court and a

grandstand that will hold 3,000 people. In addition there is to be a quarter-mile track with a 220-yard straight-away and sand pile for younger children. Under the grandstand, locker rooms for both men and women will be built.

Considerable land has already been acquired and is now being developed by the city of Houston, Tex., for park purposes, the sites ranging from small plots to an area of 278 acres. An appropriation bill is now being prepared by the Committee on Appropriations of the lower house of the Texas Legislature for the maintenance of San Jacinto battle-field park.

wa Cemetery Association, held recently, Major Hamilton was re-elected as president, LeRoy Christie as secretary and superintendent, and Henry S. Merrick as treasurer. The report given by Mr. Christie for the year ending April 30, 1915, shows that there is now a total of \$14,871.85 in the perpetual care fund, with ten old lots placed under that care during the year; \$3,961.33 was paid out as the total disbursements, and \$1,812.37 of this was for labor and \$639.27 for material; 120 interments were made. With cash amounting to \$2,875.62 and loans of \$18,300, the total net assets are given as \$21,217.84.

The Elmwood Cemetery Association, Equality, Ill., has elected L. W. Gordon president and C. H. Davis secretary.

T. L. Ott was elected president and J. C. Cooper clerk of the Marengo Village Cemetery Association, Marengo, Mich. A meeting will be held soon for the purpose of submitting plans and specifications for a chapel and to select a committee to solicit funds.

At the annual meeting of the Evergreen Cemetery Association, Detroit, Mich., the following officers were elected: George C. Wetherbee, president and Manly D. Davis, secretary.

H. A. Jackson was re-elected president and P. P. Michael secretary-treasurer of Union Cemetery, Princeton, Ill.

J. T. Murray has been elected president of the Oakwood Cemetery Association, La Salle, Ill., and W. S. Mason secretary.

Mrs. Carolina Orton, William W. Houser and W. D. Gayle were re-elected members of the Board of Trustees of the Union Cemetery Association, Lincoln, Ill.

The Ladies' Cemetery Association, of Waukon, Ia., has elected Mrs. F. H. Robbins president and Mrs. D. H. Bowen secretary.

At the annual business meeting of the Woodland Cemetery Association, Quincy, Ill., George Wells was chosen as president and E. W. King secretary.

James Adams has been elected president and Frank Mallach secretary of the Cemetery Board of Taylorville, Ill.

At the annual meeting of the ladies of Ottawa Avenue Cemetery Association, Ottawa, Ill., the following officers were elected: President, Miss Georgia Eichelberger; secretary-treasurer, Miss Hollecker.

A. F. Chapman was elected president and E. A. Schmeltz secretary at the annual meeting of the Dundee Cemetery Association, Dundee, Ill.

At the annual meeting of the Oconomowoc Cemetery Association, Oconomowoc, Wis., P. A. Theobald was re-elected president and H. W. Wessel secretary.

Mrs. Gene Burnside has been elected secretary of the Ladies' Cemetery Association of Maquon, Ill.

CEMETERY NOTES

A \$36,135.65 verdict against Mt. St. Mary's Cemetery, Kansas City, Mo., was given to W. C. Mullins, contractor, by a jury in Judge Seehorn's division of the Circuit Court recently. Mullins sued for sewer tax bills issued in 1904. The suit was tried twice before, both verdicts favoring the cemetery, but were reversed by the Supreme Court. The cemetery contended that the judgment would be confiscatory, as only ten of the original thirty-five acres of the cemetery now contain bodies. It was claimed that the ten acres of land is not worth the amount involved.

The State Senate of Illinois recently passed the bill allowing cities to take over trust funds for cemeteries. The bill was offered in the Senate at the instigation of the Alton City Cemetery Improvement Association. Its purpose was to put into the control of the municipality all funds which are paid over for the maintenance of a cemetery.

The annual observance of flower day took place at Greenwood Cemetery, Knoxville, Tenn., recently, and the occasion proved most interesting. Large quantities of beautiful flowers were donated by friends and members of the Greenwood Flower Association and by florists. The flowers were placed on the graves in the cemetery. During the afternoon special exercises were held. The Flower Association of Greenwood Cemetery was organized by a number of ladies living in Knoxville and vicinity, May 20, 1907, for the purpose of beautifying the general appearance of the cemetery.

The trustees of Green-Wood Cemetery, Brooklyn, N. Y., have issued their report for the year 1914. As shown by the report, the receipts from the sale of lots amounted to \$126,308.32. The trust fund deposits made by lot owners for the special and perpetual care of their

lots were \$90,818.62, the fund now held amounting to \$1,646,328.60. The general fund for the improvement and permanent care of the cemetery was increased by \$125,252.15 and now amounts to \$4,076,908.44.

A memorial gateway is to be erected at the entrance of Fantinekill Cemetery, Ellenville, N. Y., by Jacob H. Schoonmaker, of New York City, in memory of his father and mother. The stonework is to be of Shawangunk granite from a design made by Louie B. Tenney, architect, of Napanoch.

Cemetery Officers Elected.

The trustees of Woodlawn Cemetery, Syracuse, N. Y., have elected the following officers: President, James Barnes; vice-president, Charles Listman; secretary-treasurer, Herbert W. Greenland. Mr. Goettel was elected trustee and Chas. Listman vice-president, to succeed Chas. Simon, who was one of the incorporators of the cemetery in 1881 and who was continuously vice-president, with the exception of two years, when he was president. He died June 8, last year. Peter Kay has been superintendent for the past fifteen years. The trustees last year purchased fifty-seven more acres adjoining the cemetery on the north, in the town of Salina. As this land is not yet needed, it has been leased to an expert, who will conduct it as a "model farm" under the Onondaga Farm Bureau Association. This gives an entrance on Court street, a state road, and opens up a large northern section.

The Roseland Park Cemetery Association, of Detroit, Mich., has elected the following officers: President, H. M. Leland; vice-president, Dr. Angus McLean; secretary, Thomas McGiverin. J. A. Wendorph, who has had charge of the cemetery for the past five years as superintendent, was re-elected.

At the annual meeting of the Ottum-

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After four years' experience, Mr. T. H. Little,

Assistant Secretary of the Mt. Hope Cemetery Association, wrote:

"We are pleased to say we have had no reason to change our opinion either as to our satisfaction with, or as to the result obtained from the use of Tarvia B."

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The Woodlawn Cemetery Association, of St. Peter, Minn., has re-elected Ed Bornemann president and elected E. E. Miller secretary.

The Na-Au-Say Cemetery Association, of North Seward, Ill., has elected Mrs. Hayes Wheeler president and Mrs. Hattie Ringberg secretary.

J. A. Hardy, Sr., was recently re-elected president and T. J. Roney secretary of the Mt. Hope Cemetery Association, of Joplin, Mo.

At the election of officers of the Ladies' Cemetery Association, of Troy Grove, Ill., recently, the following were elected: President, Miss Alice Hess; secretary, Mrs. Mabel Zorn.

The Hart Cemetery Improvement Association, of Hart, Mich., has elected C. A. Joslin president and Mrs. Luke secretary.

The Grover Cemetery Association, of Grover, Colo., will beautify the cemetery grounds by the addition of trees and shrubs and employ a regular sexton. G. W. Parker was elected president and E. C. Abbey, Jr., secretary.

New Cemeteries and Improvements.

Twenty acres of the New Highland Cemetery at South Bend, Ind., have been developed and will soon be opened for interment. The cemetery contains fifty-seven acres in all. Plans were drawn by O. C. Simonds, of Chicago, and provide for an office, a chapel and a superintendent's house, all of which are to be of stucco with roofs of green tile. Simplicity will be the distinguishing feature of all the buildings, and the coloring will harmonize with the natural surroundings.

The Society for the Preservation of Spanish Antiquities will begin the work of putting the old cemetery at Santa Fe, N. Mex., or Campo Santo, with its mortuary chapel, in good order again. This was the first walled cemetery in New Mexico.

The City Council of Virginia, Minn., recently passed a resolution appropriating \$2,000 to the Greenwood Cemetery Association and \$1,000 to Calvary Cemetery for improvements.

The Evergreen Cemetery Association was recently incorporated at Odem, San Patricio County, Tex., by J. L. Allen, Maggie Cherry and B. M. Reiley.

The Topeka Cemetery Association, Topeka, Kan., has just purchased a 45-acre tract of land adjoining the present cemetery on the south which will be improved at once and platted and placed on the market. The lots in the new tract will be sold on the perpetual care plan and the western section reserved for negroes.

The officers of the McCord Cemetery, Hillsboro, Ill., recently erected a fence around that cemetery. The fund for this purpose was raised by private subscription.

The Union Cemetery Association, Ma-

rengo, Ill., recently added another acre of land to its present boundaries. Many shade trees have also been planted by the association.

Among the improvements that the Fairlawn Cemetery Association, Decatur, Ill., is making is the drainage of the great central draw in the cemetery tract. The central basin of the cemetery has Stevens Creek on the south for its natural outlet. Some of the ground is quite low and the drainage plan now being carried out provides for the rapid carrying off of all storm water.

The Shiloh Cemetery Association, Burlington, Ia., recently filed articles of incorporation with County Recorder Youngstrom. This organization is located in Union Township and the capital stock is \$2,000, divided into shares of \$10. The incorporators are: Paul B. Smith, Fred A. Peterson, D. S. Murphy, C. E. Staff, P. S. Hoverson, Harry Underwood, Chas. Johnson, Stephen Smith, F. W. Romkey and Henry Magel.

The new addition to East Side Cemetery, Hutchinson, Kan., has been opened and the cost of burials has been cheapened.

At a recent meeting of the Business Men's League, of Carthage, Mo., a committee was named by President Louis Gratz to consider improvements for the southeast part, or old portion, of Park Cemetery and the establishing of a maintenance fund.

Definite plans for beautifying Llano Cemetery, Amarillo, Tex., have been agreed upon by the County Commissioners. The raising of the large water tank to a height of several feet is about the most important improvement.

A protest signed by Frank Shultz and fifty-six others was presented to the Common Council recently against the locating of the Mishawaka (Ind.) proposed new cemetery on the Gernhart farm at the foot of Indiana avenue, and along the south and east banks of the St. Joseph River.

Marietta Cemetery, Barnes, Ill., recently purchased a new plot of ground which is being cleared off and improved for burials.

After a number of requests by the citizens of Fort Collins, Colo., the city has decided to open Section A on the main drive at Grandview Cemetery for single graves. This section will be under the perpetual care plan.

Articles of incorporation have been filed for the Reform Church Cemetery Association at Monroe, S. D. The trustees are: Reiser Raberger, J. W. Mieas, Henry H. Buss and others.

The Cemetery Association at Edinburg, Ill., recently gave a program at Etherton's Opera House, the proceeds of which went towards the improvement of the cemetery. Two gates, several flower urns and material for driveways through the cemetery have been bought.

THE OBITUARY RECORD.

John F. Cowell, director of the South Park Botanical Gardens, of Buffalo, N. Y., for the last twenty years, died suddenly last month of heart disease. Professor Cowell leaves one daughter, Mrs. Adelaide Moulthrop, and a son, Francis W. Cowell. Professor Cowell was a botanist of international repute and an authority on orchids and tropical plants. He got home only two weeks before his death from a trip to Cuba and Jamaica, where he went in search of new varieties of plants. On this trip he was accompanied by Dr. Britton, who has charge of the New York Botanical Gardens. In the opinion of William F. Kasting, former park commissioner of Buffalo, Professor Cowell was the ablest botanist in the country and had charge of botanical gardens surpassed, perhaps, only by the Kew Gardens in London. "At the South Park Gardens," said Mr. Kasting, "there are the finest collections of trees, shrubs and plants that are to be found anywhere in this country. Professor Cowell had a faculty for adding collections that cost the city nothing. I know that many collections have been obtained in this manner at no cost to the park department. Every botanist will regret his death. He was a man of unassuming character who knew floriculture and horticulture as few others know these subjects." Professor Cowell spent much time in producing hybrid plants and flowers, but never commercialized any of his products. He specialized in a single variety of chrysanthemum. The annual chrysanthemum show held at the South Park conservatory was a wonder and a joy to all lovers of flowers. Professor Cowell was 63 years old. He was born in Boston, Mass. Before entering the employ of the Buffalo Park Department he was principal of one of the public schools. He was a member of the Buffalo Florists' Club, the Western New York Horticultural Society, the Society of American Florists, and the American Association of Park Superintendents. He was a close friend of Luther Burbank. For several years he lectured at the University of Buffalo on botany. Henry F. Elbers, formerly in charge of Humboldt Park, Buffalo, has been appointed to succeed Professor Cowell.

John Hopkins Shepard, who for the past twenty-five years has been connected with the development and management of cemeteries, died at Syracuse, N. Y., February 1, 1915. Mr. Shepard was born at Plantsville, Conn., January 20, 1849, of Mayflower ancestry. The family for several generations had lived there. His father was a florist and nurseryman and until 1882 he was associated with him in the business. He went to Grand Forks, N. D., in 1882, and later to Odessa, on Lake Minniewaukon, where he helped organize Ramsey



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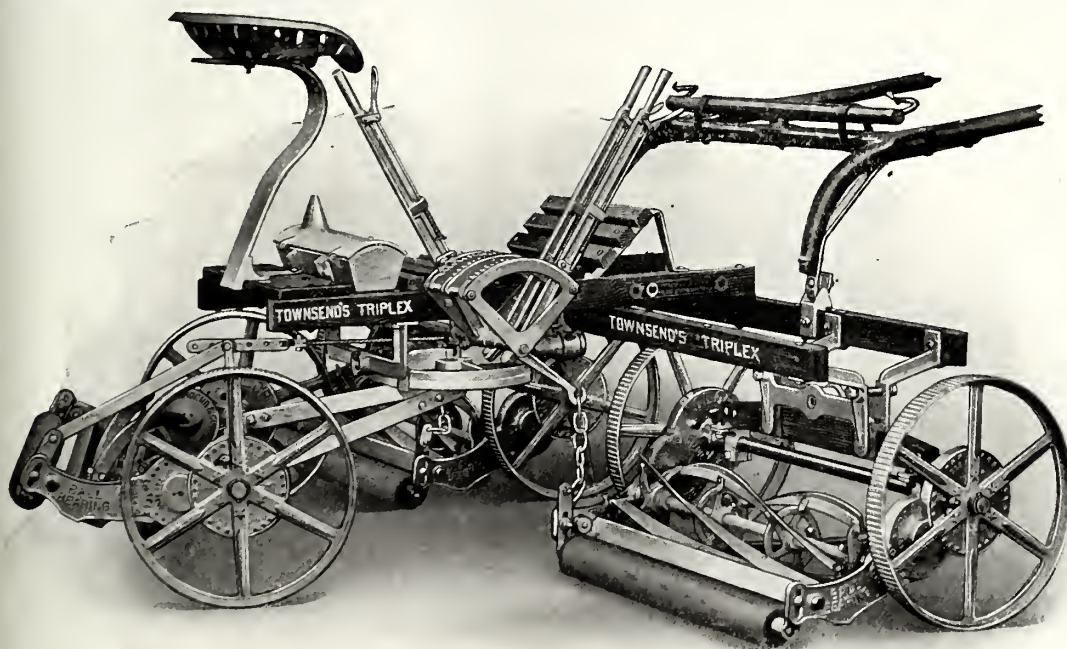
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County and took part in the early development of that section. He moved to Chicago, Ill., in 1888, and March 1, 1889, was appointed superintendent of Oakwood Cemetery. His work here brought him into intimate contact with other cemetery managements and he became active in the Association of American Cemetery Superintendents. He was called to Rochester, N. Y., in 1893, to develop the newly projected Riverside Cemetery. Here, on the banks of the Genesee River, he landscaped one of the country's most beautiful cemeteries and the first large one to be entirely laid out on the lawn plan.

In 1901 he went to Syracuse, N. Y., to lay out and manage the new Morningside Cemetery. Out of poorer natural material he here did his best work and embodied in it his ideas of what a cemetery should be. His often expressed desire to be buried here has been carried out.

Mr. Shepard resigned as superintendent of Morningside Cemetery in 1906 to devote himself to general landscape work, but cemeteries seemingly had an attraction for him, for he shortly went to Newark, N. J., to construct the new Ridgelawn Cemetery. Illness forced him to give up this work in June, 1907, and he returned to Syracuse. Under the name of J. H. Shepard & Son he, with Charles H. Shepard, who had assisted him in laying out Morningside Cemetery, engaged in general landscaping. This business will be continued by his son. Mr. Shepard was employed as consulting landscape architect by several cemeteries other than those mentioned, and in them are many enduring monuments of his artistic abilities. He always strove for bold and vigorous effects. He loved best the native trees and shrubs and paid unusual attention to autumn and winter effects.

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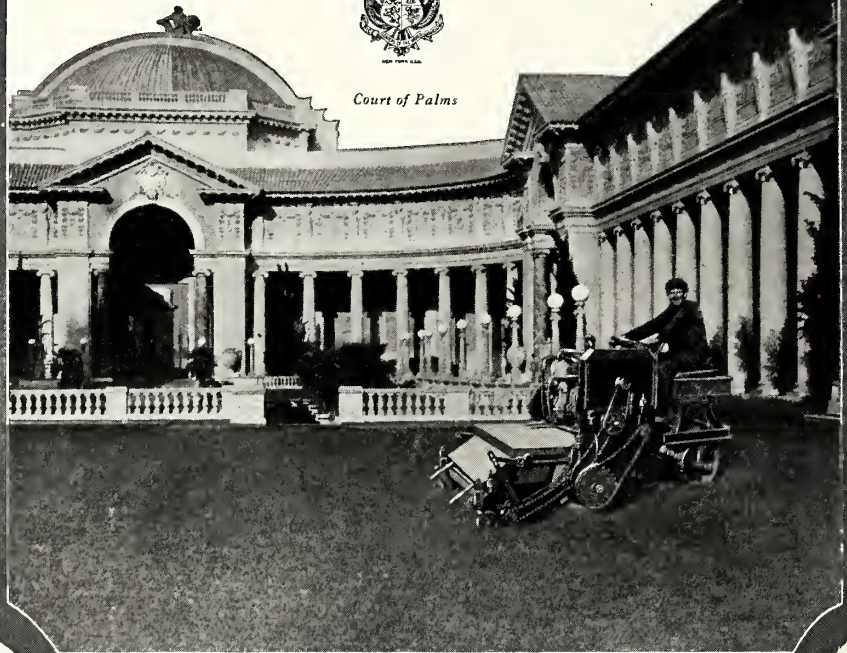
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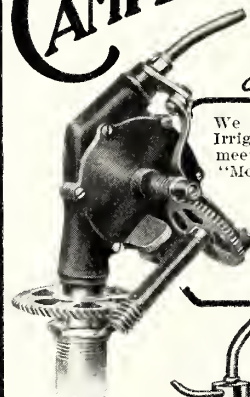


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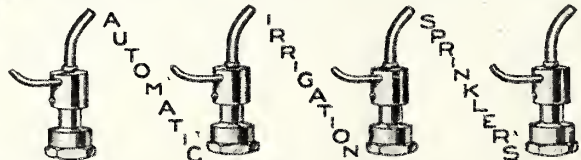


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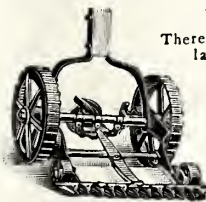
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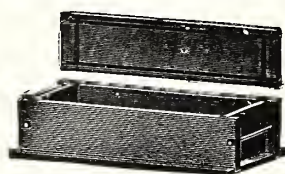
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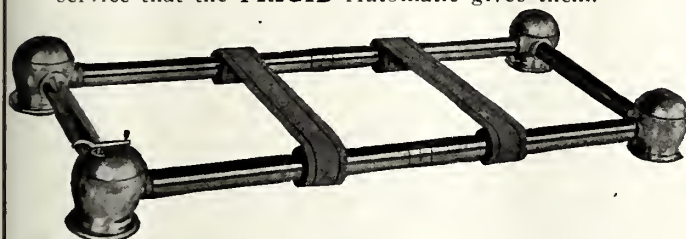
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FRIGID Automatic Safety Control Lowering and Raising Devices at one time. A Middle Western City also ordered three **FRIGID Lowering Devices**. Then a Chicago Cemetery has ordered three **FRIGID Machines**.

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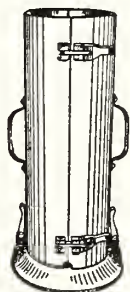
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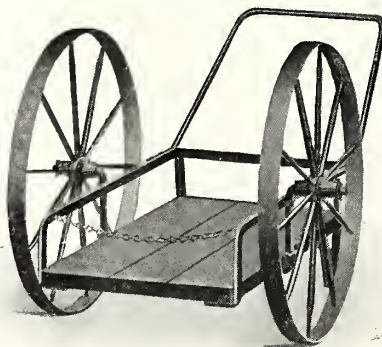
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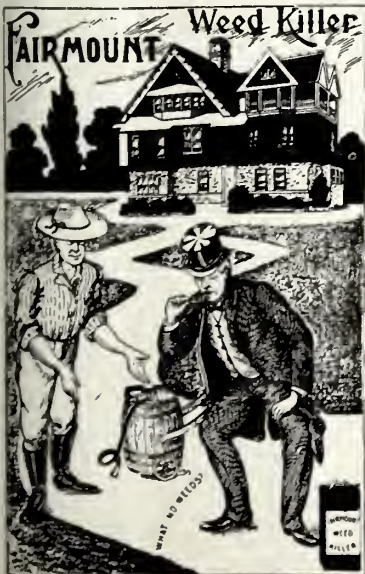
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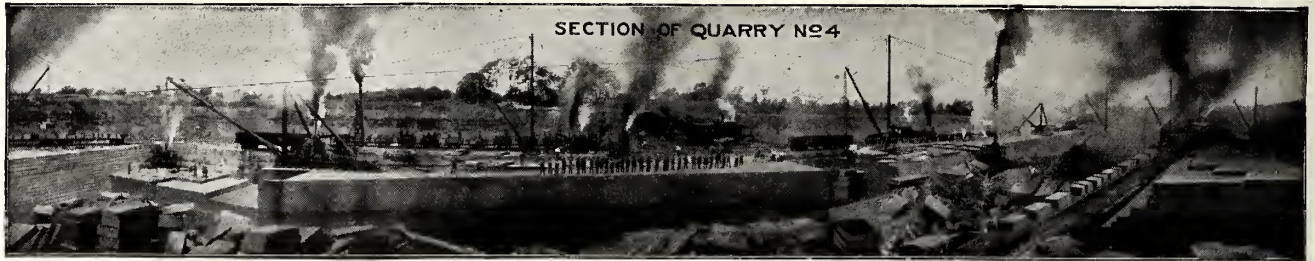
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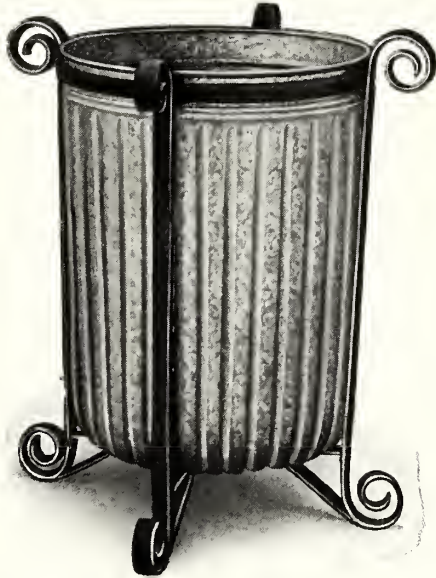
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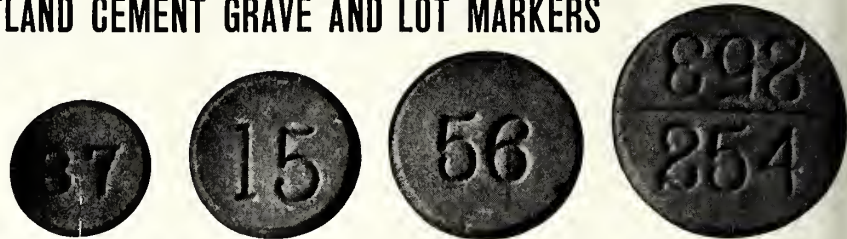
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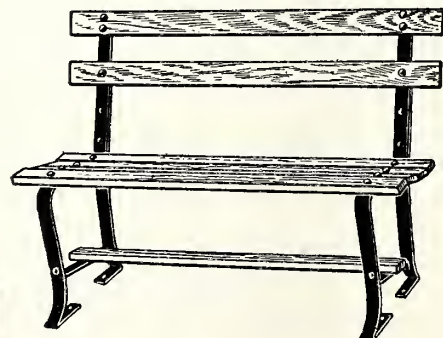
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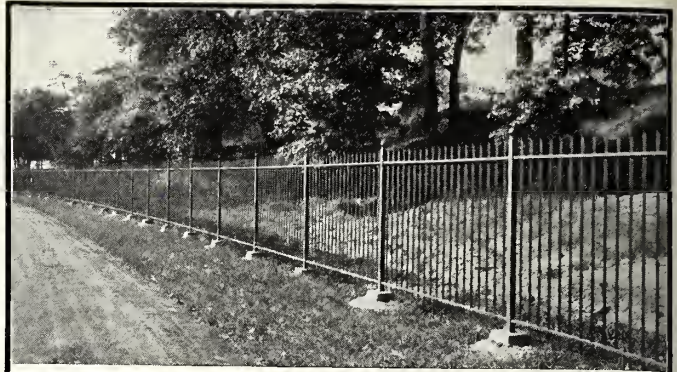


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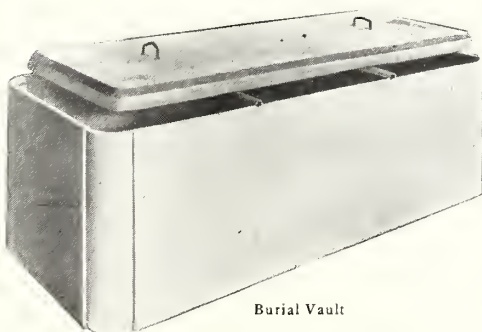
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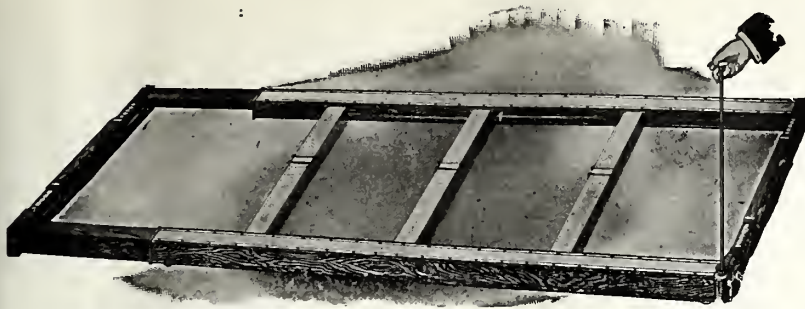
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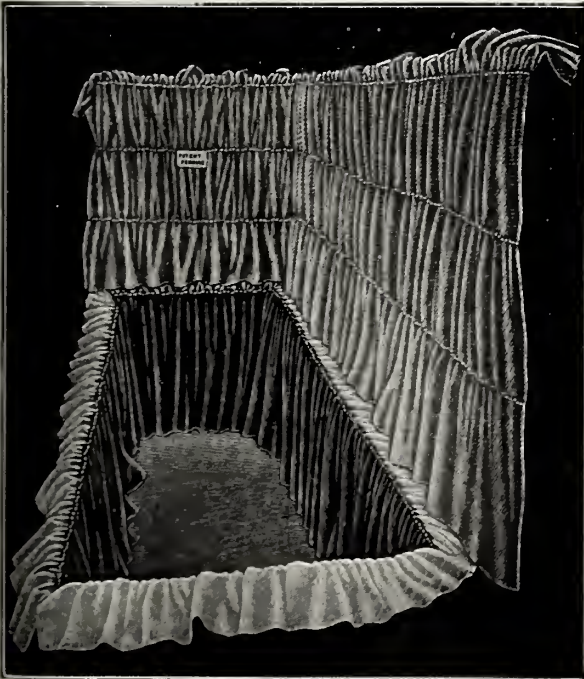
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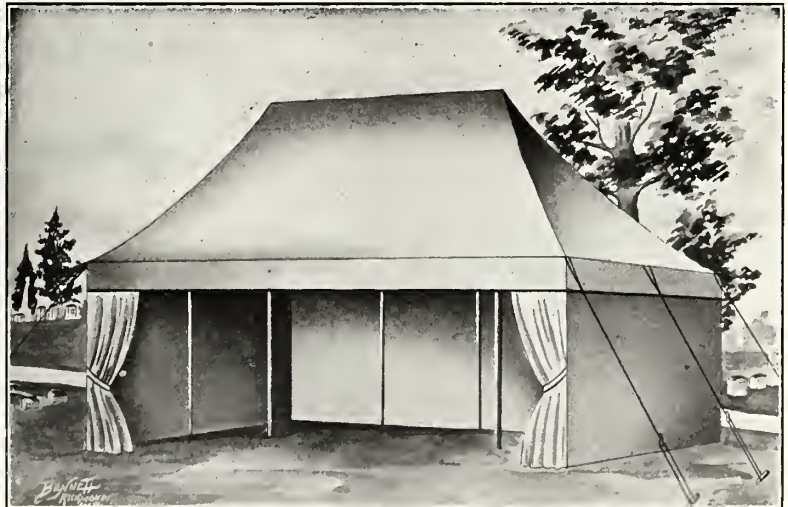
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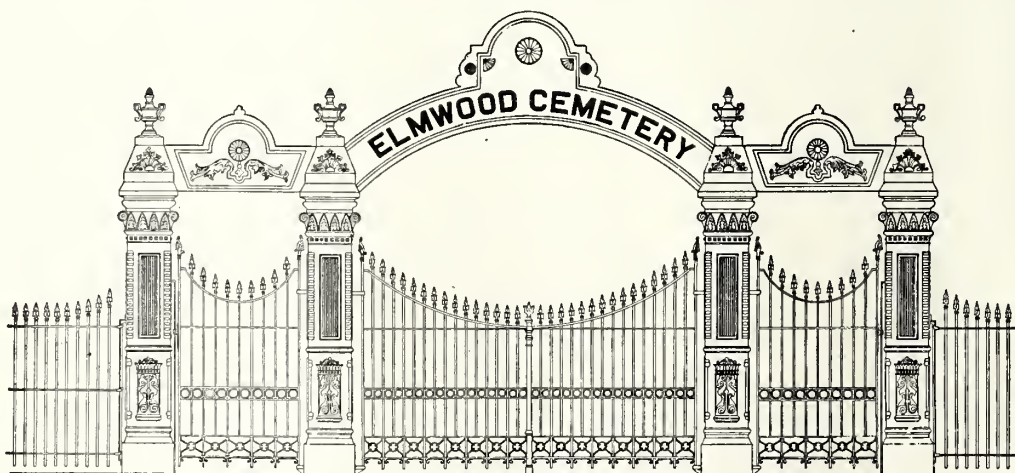
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Vol. XXV., No. 5

JULY, 1915

SPECIAL FEATURES IN THIS ISSUE

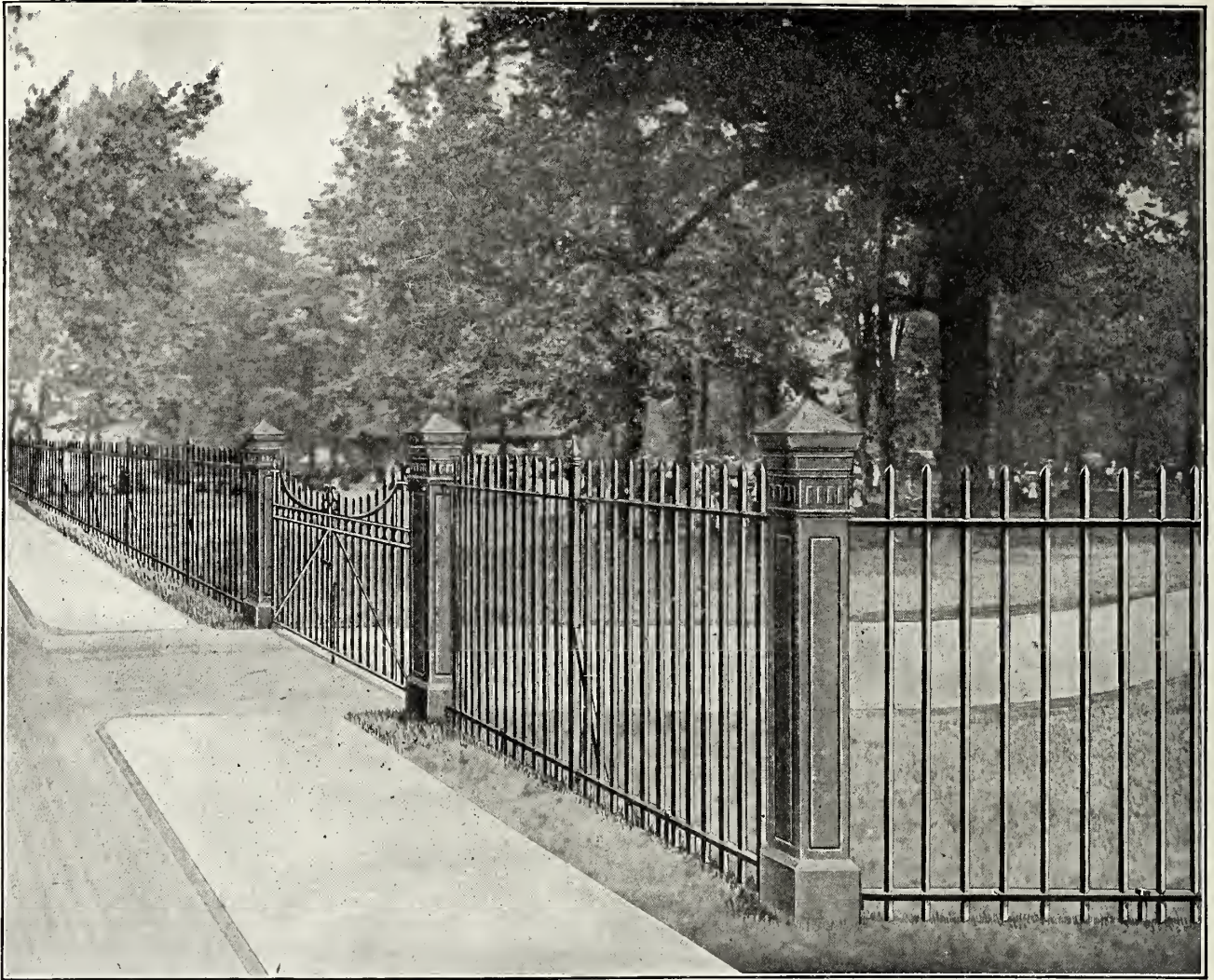
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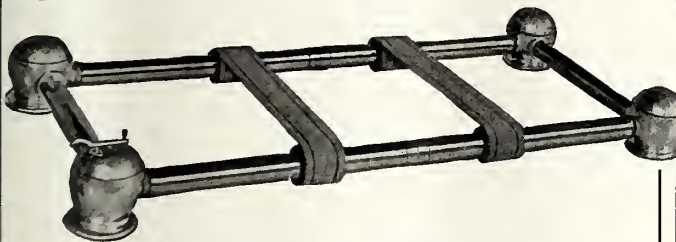
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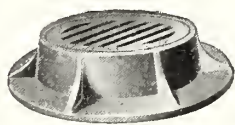
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JULY, 1915

EDITORIAL

VOL. XXV No. 5

Field Work in Parks and Cemeteries

One of the most valuable and the most practical features of the conventions of park and cemetery superintendents that will be held in August, is the opportunities offered for field work, or the inspection and study of parks and cemeteries of other cities both enroute and in the convention cities. This practical "laboratory work" in other grounds, where other men's methods may be seen in actual working, is real educative work for the superintendents, and may well be considered the higher education of the craft. These personal talks to other superintendents about their methods and observation of results of other men's ways of doing things, are, in the opinions of many association men, even more valuable than the convention proceedings proper. Seldom has there been such a favorable opportunity as this year to conveniently combine field work of this character with the trip to the convention. The cemetery superintendents will meet in the Twin Cities, August 24 to 28 and in addition to the rarely progressive

work in both parks and cemeteries to be seen in St. Paul and Minneapolis, many of the superintendents will continue their journey to the Pacific Coast to see the interesting landscape work of the expositions and to make stops enroute. The park superintendents meet in San Francisco, August 18, 19 and 20, and their going and coming trip will be rich in opportunities for park study that their itinerary will take full advantage of. Park boards of several western cities have arranged for interesting trips of inspection, designed to show the visitors the most in the shortest space of time. PARK AND CEMETERY has for several months given especial attention to describing western park systems and cemeteries, and every superintendent who wants to take the fullest advantage of his convention trip, should note carefully the places he wants to visit, and enjoy to the fullest extent this season's rare opportunities for the practical field work that always inspires to greater efficiency and greater usefulness.

The Topeka Improvement Survey

A group of citizens of Topeka, Kansas, representative of many classes in the city, secured the co-operation of the Department of Surveys and Exhibits, Russell Sage Foundation, in making a social survey, probably the first extensive study of this nature west of the Mississippi. The findings were presented in the following printed reports: Municipal Administration in Topeka, by D. O. Decker; A Public Health Survey of Topeka, by Franz Schneider, Jr.; Delinquency and Correction, by Zenas L. Potter; and Industrial Conditions in Topeka, by Zenas L. Potter. There was no fear that the city would be unfavorably advertised. The slogan was: "A city surveyed is a city unafraid." Topeka, by inviting an investigation of her municipal administration, evinced a willingness to have faults discussed that progress might ensue. Criticism made will not hurt Topeka—unless perchance the faults remain unremedied. "Better administration each year" is the slogan suggested; the best administration, the ideal,

for no city can attain the ideal at one step. The study of Municipal Administration was made by D. O. Decker, special agent of the Department of Surveys and Exhibits, Russell Sage Foundation, "solely for the purpose of making constructive suggestions relating to Topeka's administration and arousing citizen interest to the point of continuous co-operation. The suggestions are of several classes. Some, if adopted, will immediately produce better results at lower expenditures. Some will not particularly affect Topeka today, but will steer away from serious future dangers. Others are of such a nature that until they are adopted the best in Topeka does not seem possible." This study of governmental methods in a middlewest capital city affords a concrete sample of conditions and "next steps" fairly typical in many respects of a considerable number of cities of moderate size. The report contains valuable sections on parks and street improvements that will be of particular interest to our readers.

Municipal Forestry in New York

Recent investigations in Broome, Chenango and Otsego Counties by The New York State College of Forestry, at Syracuse University, show that the towns and villages in these counties have an opportunity to improve the streets and roadways by planting good varieties of shade trees to replace those that have failed to grow and to fill in the unplanted spaces of the streets and highways. The number of trees of really undesirable sorts that are being planted is surprising. The Carolina Poplar and Soft Maple have been quite generally planted. Both of these trees are quick growing, which probably is the only reason why these have been selected. However, these trees should be rarely planted, and then only as temporary trees between other more permanent varieties, such as Elm, Norway Maple, and Red and Pine Oaks. In order to maintain a growth of desirable shade trees in the cities and towns much care at the time of planting should be exercised in the choice of a good variety, a location that will allow plenty of room for uniform development, and a thorough preparation of soil in which the tree may make a luxuriant growth. By timely and proper use of the right timber in the Adirondacks and Catskills, the State of New York can save annually from destruction by fire, insects and fungi, millions of feet of lumber. Ninety per cent of the forest fires in the forests and woodlots of the State are preventable. The farm woodlot is in more ways than one

the balance wheel of the farm. It may easily be so located as to protect the home buildings against wind, and at the same time, furnish supplies of domestic timber, thereby keeping horses and men busy during the idle seasons of the year. It may also be one of the most attractive playgrounds on the farm. The State College of Forestry is helping to solve the problem of marketing the farm woodlot by developing co-operative marketing of the woodlots of an entire community. Woodlots should be marketed by the carload, not by the single tree. Within the cities of the state there are 20,000 miles of streets capable of sustaining a growth of 5,000,000 shade trees which can be made worth \$100,000,000 in increased property value. Buffalo spends annually about \$75,000 for planting and conservation of shade trees along its public streets. The State College has examined and outlined methods of improvement for public shade trees in 26 cities and towns in the state. Almost a half of the land area is better suited to the growing of timber than to agriculture. Forestry and agriculture are co-ordinate, and together will bring about the most effective utilization of the soils of the state and of the country. New York maintains, under the control of the College of Forestry, the only State Forest Experiment Station east of the Mississippi. Nearly 2,000,000 trees have been planted in this station for experimental purposes.

WATER PICTURES IN A NEW ENGLAND CEMETERY



THE LAKE FROM MAPLE AVENUE, NEWTON CEMETERY, NEWTON, MASS.

One of the most beautiful and well-kept modern cemeteries in New England is Newton Cemetery, Newton, Mass.

One of the most interesting features of the landscape work in this cemetery is the remarkably successful water pictures that have been developed in such a way as to make a unique series of aquatic effects throughout the grounds.

Newton was endowed by nature with a forest of beautiful natural trees, undulating ground, with hills and dales, and a brook that flows through the cemetery in such a way as to adapt itself to the construction of four ornamental ponds.

An electric pump supplies water for irrigating purposes.

The unusual beauty that has been secured from the water areas in this cemetery may be imagined from the pictures herewith presented.

The view shown in "Lake avenue looking east," presents a stretch of water about 700 feet long. It was formerly a millpond and

a stone arched bridge has been built where the original dam and waterfall were. On the left are collections of ornamental evergreens, deciduous trees and shrubs. There are many fine elms, willows, silver maples and groups of different varieties of cornus.

The natural boulder effects in the view of Crystal Lake looking across the rustic bridge, and "The Birches," are two of the most attractive effects in the grounds. There are about twenty-five of these birches, on the shore of an artificial lake supplied with water from the cemetery's own water supply. At the head of the lake is a large fountain. Water overflows from a small lake near the birches to the larger lake farther east. The shores of both are ornamented with rough boulders, placed artificially, and cornered with ferns, vines and shrubs. There is a large variety of ornamental shrubs and trees along the banks and many rhododendrons and azaleas.



THE BIRCHES, NEWTON CEMETERY, NEWTON, MASS.

The view of the lake from Maple avenue gives another glimpse of the same lake, a large area about 500 by 200 feet, with an irregular shore line and an island in the center. The small lake, about 100 feet across, is ornamented with shrubs, and is similar to the larger one. These lakes are surrounded by the most beautiful lots in the cemetery, facing the avenue around the lake. The entire lake was dug out and covered with gravel. The island was part of the natural surface of the ground, and had several handsome trees, which have been preserved.

Back of the boulders surrounding the island are planted large groups of cannas, calladiums, salvias and other ornamental flowering plants which are changed from year to year. The large weeping willow at the left was a slip taken from the willow over the grave of George Washington.

Cold Spring Brook is supplied by several natural springs which are located about



COLD SPRING BROOK, NEWTON CEMETERY, NEWTON, MASS.

one-half a mile beyond the cemetery, and the brook from these springs flows through the cemetery, forming this pretty little stream. It is about one-quarter of a mile long, within the cemetery limits. Birches and boulders are kept in their natural state, and an attempt has been made to ornament at different points by planting beds of annuals.

The Rustic Bridge over the water course is at the point of the original dam where a walk has been placed over the stone arched bridge, built over twenty years ago, by Henry Ross, the original superintendent of the cemetery. Mr. Ross had a great love for the natural features of the cemetery, and in many ways showed great skill in the arrangement of ornamental bridges and the rural surroundings in which the cemetery abounded.

H. Wilson Ross was elected assistant su-



LAKE AVENUE, LOOKING EAST, NEWTON CEMETERY, NEWTON, MASS.



RUSTIC BRIDGE, NEWTON CEMETERY, NEWTON, MASS.



CRYSTAL LAKE, LOOKING WEST ACROSS THE RUSTIC BRIDGE, NEWTON CEMETERY, NEWTON, MASS.



THE NEW ADMINISTRATION BLDG., NEWTON CEMETERY, NEWTON, MASS.

perintendent in 1891, and superintendent and treasurer in 1900, and served until May, 1914. Mr. Ross is well known to cemetery association members throughout the country, having been prominent in the Association of American Cemetery Superintendents, and the New England Cemetery Association. Mr. Ross left the cemetery to join the firm of Ross Bros. Co., Worcester, Mass., dealers in agricultural implements and seeds, but still keeps up his active interest in the Newton Cemetery, having been elected a member of the Board of Trustees. Charles W. Ross returned to take up the duties of superintendent when his son left, and is at present holding that position.

A great deal of improvement work has been accomplished in the past year or two, chief among which was the erection of the new Administration building, at a cost of \$18,000. This is of Weymouth seam-faced granite with limestone finish,

and includes a waiting room, trustees' room and superintendent's office. The interior is handsomely finished in oak.

The superintendent's report shows you that he has sold \$17,706.50 worth of lots during the past year, this being more than has been sold in any one year of the cemetery's history.

During the year the perpetual care fund increased from \$193,909 to \$202,527.

Three hundred new lots have been graded, and many trees and shrubs planted. About two acres of ground has been graded, and grassed ready for sale. A bequest of \$1,000 left by a prominent citizen of Newton, for rhododendrons, kalmias and azaleas has helped in adding materially to the beauties of the cemetery. The natural beauties of the grounds have been carefully preserved.

There is a duplicate card index system for plans, lot owners' names and interments; and records are kept in separate offices.

one in fireproof vaults of new office building and others in the old office.

The cemetery contains 115 acres, of which about 75 are in use.

The following are the present officers of the corporation: George Hutchinson, president; William M. Flanders, vice-president; treasurer, James B. Melcher; auditor, George W. Auryanson; superintendent, Charles W. Ross; assistant superintendent, Nils H. Mattson.

On the Board of Trustees are a number of leading citizens of Boston, who make their homes in Newton and their public spirited efforts have been instrumental in making this one of most beautiful cemeteries in New England. In addition to the officers mentioned, the following are on the present board: Seward W. Jones, H. Wilson Ross, William F. Bacon, Henry B. Day, George M. Fiske, Frank A. Mason and Francis Murdock.

FAIRMOUNT, DENVER'S GREAT MODERN CEMETERY

Park superintendents or cemetery superintendents who want to do some valuable and interesting field work in visiting the western parks and cemeteries, either before or after their respective conventions in August, will not overlook the city of Denver.

The wonderful system of mountain parks this city has developed have previously been described in these pages, and Fairmount,

Denver's leading cemetery, is one of the most highly developed and interesting burial grounds in the country.

Fairmount was organized February 20, 1890, and lies due southeast of the city, five miles from the capitol building, at the corner of Alameda avenue and Quebec street, just across the line in Arapahoe County, and never will be incorporated in the city limits. Located on high ground,

and commanding an unbroken view of the mountains for two hundred miles, it is the most accessible and beautiful site of any cemetery in or near Denver. Fairmount is the largest cemetery of the central west. The great extent of the grounds, 560 acres, has enabled it to be laid out on the modern lawn or park plan. Growing plants and flowers artistically arranged and well cared for enhance the natural beauty of



THE CREMATORY, FAIRMOUNT CEMETERY, DENVER.



BEAUTIFUL DRIVE IN FAIRMOUNT CEMETERY.



MORTUARY CHAPEL, FAIRMOUNT CEMETERY, DENVER.

the grounds, and the many acres covered with grass, shrubs and trees not used for burial purposes give the park-like appearance and beautiful landscape. All lots and graves are sold with provision for perpetual care; that is, the lawn and flowers are

in that style. On the left of the gateway, as you enter, is the superintendent's house, of eight rooms, office, parlor, dining room and kitchen, on the ground floor, and four bedrooms above. On the right are a laborers' cottage, tool house, etc. The whole is

the receiving vaults, thirteen in number. These vaults are roofed over at about ten feet above the floor, and at this height are the sills of the windows of the clerestory lighting the chapel. The interior is beautifully decorated. The windows are



ENTRANCE AND GATE LODGE, FAIRMOUNT CEMETERY, DENVER.

watered, grass mowed, shrubs and trees trimmed, without expense to the lot owner. More than \$250,000 has been expended in beautifying, improving and embellishing the grounds in addition to the cost of the land. Over \$1,000,000 has been invested in monuments, memorials and mausoleums. Reasonable rules have been made governing the care of the grounds and the erection of monuments and memorials.

The perpetual care or endowment fund is constantly being augmented from the sale of lots and other sources, and from the income from the careful investment of this fund which affords assurance that the cemetery will always be kept up without further expense to lot holders.

The gate lodge, built of blue-white sandstone from the designs of H. T. E. Wendell, architect, is a building 80 feet long on the main front, with a depth of 26 feet. The main entrance to the cemetery is through the center of this building. The roadway passes under a massive arch supported upon eight columns with carved caps. This gateway is 16 feet wide, and the arch rises to a height of 20 feet at the crown. The style is French Gothic, and all of the mouldings and ornamental work have been carefully worked out in detail

under one roof of a steep pitch. In the main entrance are elaborate wrought-iron gates of a special design, in keeping with the other work, and with a small wicket gate within the larger one for foot passengers.

Passing through this gate lodge, the road sweeps gracefully to the east on the left, and winds up a low hill, upon the summit of which stands the Mortuary Chapel, with its receiving vaults.

The Mortuary Chapel, of blue and white sandstone, is in the Ecclesiastical French Gothic style of the thirteenth century, and has been very carefully worked out in all its details. It faces the east, and from its commanding position makes a prominent feature of the cemetery. The main portal is in the center of the wall; the door proper is six feet wide, and capped with delicately carved foliage. The large pointed arch is one of the main features of the front; also, a rose window, about six feet in diameter, with flowing tracery, and which is filled with stained glass. The dimensions of the chapel proper are 26 feet in width by 64 feet in depth, the west end being octagonal in form, and surrounded on all sides but the front by

filled with tracery and colored glass, making the interior bright and light. The roof is pierced gable, surmounted by a tower 90 feet in height. The vaults for temporary interment are capable of holding six bodies each, or seventy-eight in all.

One of the most interesting structures in the grounds is the crematory, a light gray brick building, decorated and furnished in light, cheerful colors.

The machinery for cremation includes two retorts with the latest improved air and oil atomizers, and four bodies per day can be cremated. Crude petroleum is used, just as it is taken from the oil wells. The oil is forced into the retorts at a temperature of 100 degrees, and under pressure of 40 pounds; the air at $1\frac{1}{2}$ pounds pressure. This produces effective atomizing, therefore high efficiency. The retort, previous to incineration, is heated to a temperature of 800 to 1,000 degrees Fahrenheit. The temperature of retort at the time of cremation is 2,500 to 3,000 degrees Fahrenheit. There is no flame, smoke, odor or noxious gases, all being consumed by action of intense heat. The time required for the complete cremation of an adult varies from 50 to 80 minutes; heating of

retort, 30 minutes. The retorts are constructed of the best fire clay and asbestos, and capable of withstanding intense heat; the exterior finish is porcelain. Not less than two witnesses are always present when the casket is placed in the retort. The body may be seen during the entire

time of incineration. The body is not removed from the casket or even touched or handled by anyone. There are no ashes from the casket, all being consumed by the intense heat. The screws, nails, tacks and other metallic substances of casket are removed from the ashes by a powerful

magnet. The weight of ashes is from four to eight pounds, according to the size of the deceased.

Harper M. Orahoad is president of the Fairmount Cemetery Association; William D. Peirce, secretary, and Claude Cartwright, superintendent.

RECENT PARK PROGRESS IN SPOKANE

In our February issue, review of the work of the Spokane Park System traced the work accomplished in this remarkable system of pleasure grounds up to last year, and this year's report of Superintendent John W. Duncan, published in the Official Gazette of the city, presents further interesting details of recent park development in that city.

When the present board began its work, Spokane had 173.5 acres of land for park purposes and ranked thirty-third in American cities as to park development. They now have title to 1,933 acres and have 210 acres on which the titles are being perfected.

This city has been blessed by nature in having areas in and surrounding it which are very picturesque and covered with natural trees and shrubbery, making it possible to produce excellent results, with very limited costs, as compared with other cities. In order that the improvements and maintenance be kept at a minimum, this commission adopted the plan, at the beginning of its work, of securing these areas for parks before their natural beauty had been spoiled. They have many hundreds of acres of natural park land which require



HIGH DRIVE PARKWAY, SPOKANE, WASH.

only clearing of the underbrush and the making of trails and walks to provide wonderfully picturesque picnic and rambling grounds.

Geologists who have studied this region, state that it is one of the most interesting in America.

They have gotten well started on the second step in the work of the commission: namely, construction and improvement. When work began, there were 50 acres partially developed. There are now about 1,476 acres, on which development is well advanced. The board is trying to distribute this developed area in those parts of the city where most needed, and where the public shows a desire to make the most effective use of it.

Spokane is now starting the third, and not the least important step of the work; that is, the education of the public in how to make the most efficient use of its great property. There are opportunities in the parks for all classes, old, as well as the young, rich, as well as poor; walkers and strollers, as well as riders and drivers; students, as well as idlers.

When all the parks and playgrounds now contemplated are completed there will be a



GLIMPSE OF LAKE MANITO PARK, SPOKANE, WASH.



UP RIVER PARK. SAN SOUJI ROCKS, SPOKANE, WASH.



THE RUSTIC BRIDGE, DOWN RIVER PARK, SPOKANE, WASH.

park or playground within fifteen minutes walk of every residence in the city.

The wisdom of having a well defined plan in advance of actual work, has resulted in saving many of the most desirable sites for park purposes, and, thanks to the public-spirited citizens, hundreds of acres of valuable property has been given to the city. These include many river bank sites, which afford far-reaching views of city, country, and snow capped mountains in the distance.

The pallisades of basaltic rock, and the rim-rock drive, with its peculiar rocky formations and magnificent views, will be attractive features of Indian Canyon park. This will be an ideal site for the proposed Zoological garden. The red man still loves the spot and often pitches his tepees here.

The parks are now in such condition

that in many cases improvement work could be better done now than some years hence; especially is this so in the planting of many of the banks and slopes along the river and driveways. There are available in the nursery some 75,000 plants that are now of planting size.

The park nursery now contains many valuable trees and shrubs. In its establishment in the Up River park there is room for the growing of many trees and shrubs which are to be of great value in the making of plantations which are so much needed on some of our park lands. Altogether the nursery contains 750,000 plants, most of which have been raised from seed and cuttings from native and already established plantings.

Superintendent Duncan has introduced a large number of ornamental shrubs and

plants, common in New England, but which were practically unknown in Spokane; these added to the native flora, give a wide range for decorative planting.

The total park fund, credits and receipts for 1914 was \$122,504.48, and the expenditures, \$108,986.71.

During the past year the playground work was in a very creditable condition. "Sports in the parks are what make them more attractive to the public," says Superintendent Duncan, "and further experience has convinced me, more and more, that the ideal playground is the park playground; that is, where it is immediately within or adjoining a park. From an economical, from an esthetic and from a play point of view it is unquestionably the most desirable."

They have now in the department 19 baseball diamonds, six football fields, and 35 tennis courts.

Spokane is peculiarly fortunate in the possession of some of the most picturesque park lands in America, and in having them under the care of such enthusiastic and eminently qualified men as H. L. White, president of the Board of Park Commissioners and John W. Duncan, Superintendent of Parks.

OHIO CEMETERY ASSOCIATION MEETING.

The fourteenth annual meeting of the Ohio Association of Cemetery Superintendents and Officials was held at the Phillips house, Dayton, O., June 9 and 10. The meeting was called to order by President J. A. Reed, of Canton, O., at 1 p. m., Wednesday, the ninth, in the assembly room of the Phillips house with 50 members answering to roll call.

The secretary made his annual report, showing a good balance in the treasury. The association has a membership of 55, and eight being admitted at this meeting makes a membership of 63.

The first paper on the program was a talk by Mr. Click, assistant landscape gardener, at the Cash Register Works, taking as his subject a general discussion of things beautiful for the cemetery, in the way of shrubbery, trees and hardy herbaceous stuff. Mr. Click gave a very interesting talk, and one much enjoyed by those present.

The second on the program was an address by Dr. Garland, chairman of the Welfare Committee of Dayton. This proved to be a very excellent talk and left no one in doubt when Mr. Garland was through as to why Dayton was called the Gem City.

The question box was then taken and many perplexing questions pertaining to the cemetery were discussed, such as eradicating dandelions; removing algae from water areas, and many others.

At the Thursday morning meeting some sixty answered to roll call, ten more having arrived since the opening session.

The first paper was by Mr. Woodward.



THE LAKE, CANNON HILL PARK, SPOKANE, WASH.

Next came a paper by Charles Crain, of Tiffin, O., entitled "What is Our Association? Its Purpose and Objects." This was well written and well received by the members.

After lunch the party took automobiles for a visit to the private park, called Hills and Dales, belonging to Mr. Patterson, of the Cash Register Works. This park consists of 1,200 acres of ground, and

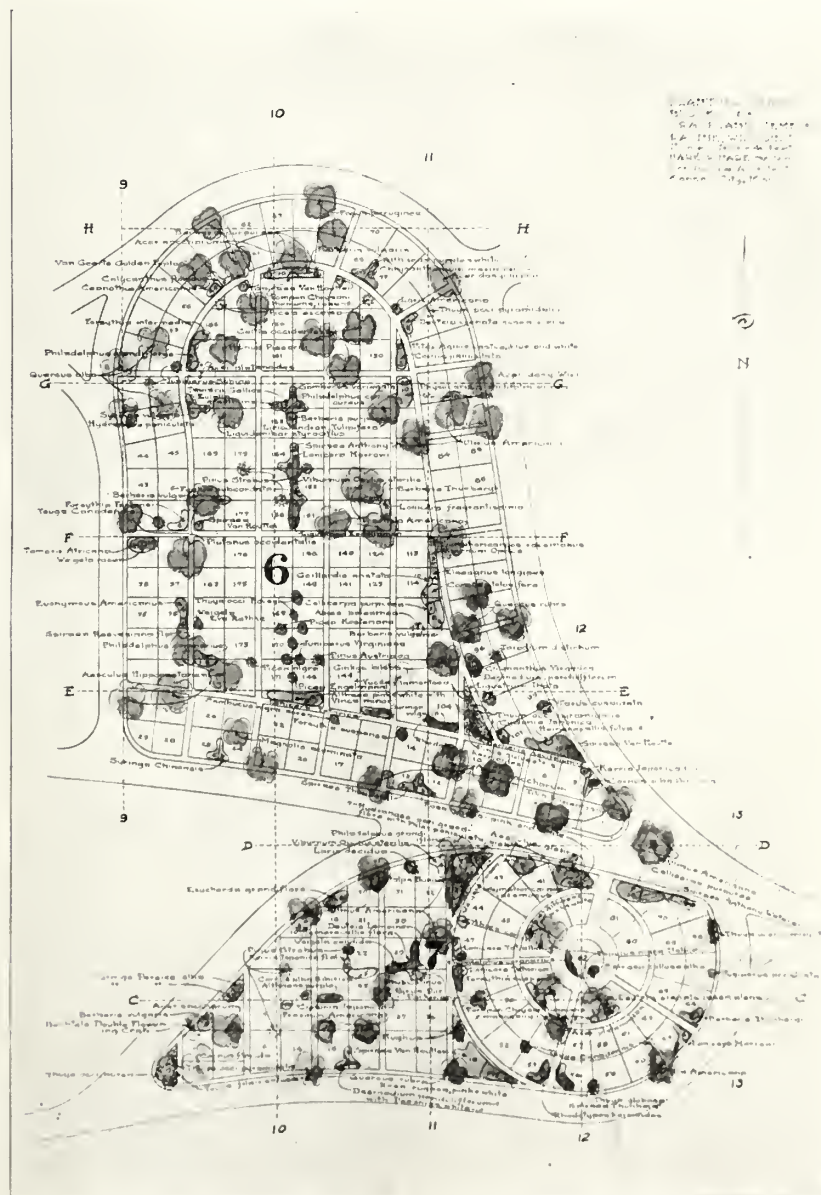
The Ohio Association includes in its membership wideawake, progressive cemetery men, and the slogan in Ohio is "the best kept and cleanest cemeteries of any state."

E. A. SLOAN.

E. A. SLOAN,
Secretary.

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City, Mo.

The problem of planting presents two aspects: First, there is the composition or arrangement—the proper placing for effects of mass, support, enframement, sky line, and screening, which are purely considerations of design: and second, the selection of varieties to give the above effects, and for foliage, flower, fruit, and combinations or continuations of these effects, which is primarily a problem in horticulture. Trees, evergreens, shrubs, and flowers, no matter how beautiful and interesting in themselves, if improperly placed in relation to the conformation of the land, the roads, and the buildings, will only detract from the beauty of the scene as a whole. As in the case of a building, much depends upon the choice of materials, yet carefully selected materials cannot alone insure a successful design. Therefore, proper importance should be given first to the arrangement of vegetation, without, however, forgetting the added beauty and interest which comes from a happy choice of varieties of plants and the application of a thorough knowledge of horticulture.



PLANTING ARRANGEMENT FOR BLOCKS PICTURED IN LAST ARTICLE



AN EFFECTIVE COMBINATION OF VAULT, PLANTING AND WATER.



SUCCESSFUL PLANTING OF THE APPROACH TO A CEMETERY. FOREST HILLS CEMETERY, BOSTON, MASS.



PLANTING AS THE BACKGROUND FOR A MONUMENT.

The recognized principles of landscape composition, either formal or informal, apply to cemetery work as well as to parks and other developments, but the application of these principles is subject to the limitations arising from the special needs in cemeteries. In a general way, we might say that the scale of the landscape effect is smaller in cemeteries than in other work. The stone work (monuments, head markers, and mausoleums), which usually exist or will exist, limit the possible extent of open spaces and necessitate the subdivision of the blocks into lawn areas of comparatively small extent (say 100 to 150 feet) and require screens wholly or partially separating each area from the next. In the case of sections where monuments, head markers, and grave mounds are to be kept level with the ground, a broader treatment can be adopted, more truly parklike.

The bands of planting mentioned should follow irregularly the lot lines, forming interesting curves and recesses, which will catch the light and shadows. These screens should be of sufficient width to fulfill their purpose and may require a whole lot here and there to be reserved for planting. Planting reservations through the center of the blocks may be good in places, but it is often better to take certain lots at places with narrower connecting strips along the borders of other lots. A certain amount of planting on a lot does not necessarily hinder its sale. Many people wish to have shrubbery or trees on their lots and are only too glad to purchase one where the permanency of the plantation is guaranteed as a feature of the original or authoritative scheme. In the modern cemetery, lots must be sold subject to this adopted plan and, except perhaps in the case of very large lots, large enough to be a landscape unit in themselves, where special formal or informal developments may be designed as a setting for an important monument, the rights of the individual lot owners must be limited in order to maintain the unity and harmony of the scheme. Without such

limitations, a cemetery would soon become a maze of individual plantings wholly lacking in coherence; such scenes as we are used to seeing in the old country graveyards.

One of the functions of the planting screens and groups is to give a background for the monuments. The tendency now is strongly toward limiting monuments. This is usually accomplished by prohibiting them, except on lots of a certain size. One of the best ways of regulating them would seem to be to allow monuments on certain lots on the borders of the lawn areas where a suitable background of vegetation would be assured, and prohibit them (at least above the ground level) through the center of these lawn areas. The lots where monuments would be allowed could be determined as a portion of the original scheme and recorded on the plats.

Vistas, ordinarily so important to an extensive landscape, have to be used with cau-

tion in cemeteries on account of the monuments. They are apt to become simply a monotonous continuation of stonework. Some such restriction as mentioned above might be exercised on the lots within the vista to keep the view open. A certain number of these glimpses focusing upon important buildings, monuments, or water areas should be included in the general plan and regarded in the planting scheme.

A good border plantation of shrubs, evergreens, and trees, giving privacy from adjoining land or public highways, is essential. This may sometimes be obtained in part, in a compact and economical way, by a heavy growth of vines on a suitable permanent fence.

Aside from the smaller flowering and ornamental trees used in the shrubbery groups, a certain number of shade trees, if not already growing on the ground, will have to be supplied. These should not be planted so thickly as to interfere with the



A GOOD VISTA FOCUSING UPON A VAULT. FOREST HILL CEMETERY, KANSAS CITY, MO.

growth of grass and other plants beneath, but should be arranged in groups of reasonable spacing with occasional open, sunny lawn areas.

In the choice of plants, much good judgment and discrimination is necessary for the best results. Fitness and good taste in this, as in furnishing a house, is the keynote. If there is native growth on the ground that can be reasonably preserved, this will form a foundation upon which to build, and establish in a way the types of plants suitable for the various situations.

A great variation in both the color and character of foliage is possible with the various kinds of plants now at the disposal of the landscape architect. Garish effects, however, resulting from the over use of exotic plants, plants of brilliant foliage or freak shapes, should be avoided.

The value of evergreens for winter effects cannot be overlooked. Berry-bearing shrubs such as privet, honeysuckle, rhamnus, and callicarpa can be grouped well for autumn and winter effects. In addition, the berries often attract birds. Every cemetery should be a bird sanctuary.

Continuation of bloom is possible in most plantations of any extent by careful group-



NATIVE TREES AND SHRUBBERY, MUCH OF WHICH COULD BE RETAINED IN CEMETERY DEVELOPMENT.

ing, at least with the use of some perennials bordering the shrubbery.

In the lot sections, evergreens, which are planted as specimens or individuals,

should be largely of the smaller or more compact varieties, such as arborvitae, junipers, and mugho pine, which do not occupy too much land area with their lower branches. Shade trees should be of the higher branching sorts, such as red oak, elm, sugar maple, and linden, which will allow plenty of light and air beneath. A wooded lawn of high branching trees 40 to 60 feet apart is susceptible to the best kind of cemetery development. In the reserve areas about lakes, and in the borders, the larger growing evergreens and lower branching trees will be more suitable.

Both trees and shrubs should be chosen with regard to the rate of growth and a reasonable number of more temporary, quick growing varieties included, to be removed when the more permanent plants are grown. A landscape can never really be considered finished or complete. It is constantly changing from year to year, with the growth, maturity, and decline of the planting, and for this reason a cemetery should have a landscape architect in constant consultation, making one or more visits each year to advise as to the adjustments, additions, or thinning.

PARK SUPERINTENDENTS AT SAN FRANCISCO

The seventeenth annual convention of the American Association of Park Superintendents will be held in San Francisco, August 18, 19 and 20.

The opening date, August 18, will be devoted exclusively to business sessions, morning, afternoon and evening, while the two succeeding days will be given over to inspection tours and social functions.

Inasmuch as the Society of American Florists and the National Association of Gardeners have set their convention dates for the same week in San Francisco, the three organizations will undoubtedly bring together a tremendous gathering of men engaged in these professions.

The landscape features of the San Diego exposition were described in a recent issue and those of the San Francisco exposition in our last issue.

The Park Superintendents' Association, in an effort to have as many as possible



travel westward together, is arranging for a special train from Chicago through to San Francisco via the Pacific Northwest,

which is conceded to be a scenic wonderland.

The party will assemble at Chicago, on August 8, and stopovers are planned at Minneapolis, Glacier National Park, Spokane, Seattle, Tacoma and Portland, where elaborate entertainment features will be provided by local authorities at no expense to the party except at the National Park. Members and friends and relatives of kindred societies will be invited to join the party. No specific return route is being planned, as the length of time to be spent at the San Francisco and San Diego expositions is so much of an individual matter dependent on time and means, and a return route via Colorado or the South is an open question for individual decision.

Further details may be had from Secretary Roland W. Cotterill, Seattle, Wash.

A. A. C. S. CONVENTION IN TWIN CITIES

The annual convention of the Association of American Cemetery Superintendents will be held in the Twin Cities, August 24 to 28. The first three days will be given up to meetings and sightseeing in Minneapolis and the fourth day to St. Paul.

Headquarters will be at the West Hotel, where the following rates will prevail:

Rooms: Single, without bath, \$1, \$1.50, \$2; double, without bath, \$1.50, \$2, \$2.50; single, with bath, \$1.50, \$2, \$2.50, \$3; double, with bath, \$2.50, \$3, \$3.50, \$4.

Cafe a la carte, popular prices: Club

breakfasts, 25 to 80 cents; club luncheons, 40, 50 and 60 cents.

The local committee is planning to print a very fine souvenir program containing views of the parks, cemeteries and other points of interest in the Twin Cities, and mail them to all members of the association.

The Convention Committee for the Minneapolis convention is as follows: A. W. Hobert, Lakewood Cemetery, Minneapolis, Minn.; Wm. Eurich, Hillside, Minneapolis; J. P. O'Connor, Calvary, St. Paul, Minn.;

H. M. Turner, Rose Lawn, St. Paul; F. D. Willis, Oakland, St. Paul. Bellett Lawson, Jr., superintendent of Elmwood Cemetery, River Grove, Ill., is secretary of the association.

Editor PARK AND CEMETERY: Owing to the unusual rush of Decoration Day work the committee in charge of the Minneapolis convention has not been able to complete plans for the program for the Minneapolis convention.

However, arrangements have progressed far enough to make it certain that there

will be three days in Minneapolis, one of which will be devoted to sightseeing, and one day in St. Paul, making a four-day convention in all. The dates are as originally announced, namely, August 24, 25, 26 and 27.

Following is the program of the papers to be read:

"Best Method of Eliminating Unsightly Objects on Lots Without Giving Offense to Owners," by C. E. Kern, of Spring Grove Cemetery, Cincinnati, O.

"Different Sources of Income for Cemetery Corporations," by James Currie, superintendent, Forest Home Cemetery, Milwaukee, Wis.

"Advantages and Disadvantages of Deferred Payments on Lots Purchased," by T. H. Little, secretary, Mt. Hope Cemetery, Chicago.

"A Few Hints on Old-Fashioned Flowers," by John Reid, superintendent, Mt. Eliot and Mt. Olivet Cemeteries, Detroit, Mich.

"Brawn and Muscle," by W. N. Rudd, president, Mt. Greenwood Cemetery, Chicago.

"Bugs and Insects," by Prof. Washburn, of the Minnesota State School of Agriculture.

"Cost Accounting and Care Funds," by Robinson Farmer, Columbus, O.

A paper on fertilizers, by a representative of Swift & Co.

Debates on the following questions, each question to be debated by two prominent members of the Association, to be selected by President Wallis:

"Is it necessary to have all lots, particularly small lots, accessible by a path, alley or avenue?"

"Should contracts for perpetual care of lots state specifically all work contemplated?"

"Should funeral processions upon entering the cemetery and all proceedings in the chapel and at the graves be under the sole direction of the superintendent or the undertaker?"

These debates need not necessarily be all at one meeting, but no member other than the debaters selected by the president can take part in the discussion. Any member can ask any question he may choose pertaining to the subject, but the president will call on one of the debaters to answer it.

It might not be amiss to have members of the association send to the secretary any

questions they wish to put in the question box.

BELLETT LAWSON, JR.,
Secretary and Treasurer.

A number of members will undoubtedly want to continue to the coast for the exposition and visits to cities between, and will be interested in the following schedule of railroad fares that will be in effect during the summer. There will be on sale round-trip tickets, with a final limit of three months from date of sale, not to exceed December 31, 1915, permitting stopovers at any point in either direction, at the following rates.

	From	
	To San Francisco, Los Angeles, San Diego, Oakland and return One Way via Seattle Portland or Victoria	To San Francisco, Los Angeles, San Diego, Oakland and return One Way via Seattle Portland or Victoria
\$ 62.50	Chicago	\$80.00
57.50	St. Louis	75.00
59.25	Peoria	76.50
50.00	Kansas City	67.50
50.00	Omaha	67.50
63.85	Minneapolis	74.45
81.25	Pittsburgh	98.75
98.80	New York	116.30
95.20	Philadelphia	112.70
104.20	Boston	121.70
67.10	Indianapolis	85.00
76.20	Cleveland	93.70
73.50	Detroit	91.00
70.25	Cincinnati	88.40
74.18	Columbus	91.85

The landscape features of the San Diego and San Francisco expositions were described in recent issues.

FREEPORT'S NEW PERPETUAL CARE CEMETERY

Oakland Cemetery, Freeport, Ill., is one of the small town cemeteries that has started with a complete perpetual care plan from the beginning and has carried out some progressive improvements in recent years, that have done much to enhance the

landscape beauty of the grounds. One of the best effects on the grounds is seen in the entrance of monumental posts and gates, that is set back and given an impressive landscape treatment.

The principal improvements of the last

two years have included the development of two new sections, the making of a half mile of road, and installing a water works system.

In the two new lawn sections, Laurel ridge and Morningside grading and road



ATTRACTIVE LANDSCAPE VIEW IN OAKLAND CEMETERY, FREEPORT, ILL.



ENTRANCE TO OAKLAND CEMETERY, FREEPORT, ILL.

building are being actively conducted. The superintendent is laying out 807 lots and a single grave space.

A large amount of shrubbery is being planted throughout the grounds.

There are 108 acres in the cemetery, and 35 in use.

The grounds have a loam clay subsoil; a rolling ground with large number of original oak trees. It is strictly a lawn plan

cemetery and all lots have been sold under perpetual care from the beginning.

The officers of the association are: Joseph Emmert, president; O. T. Smith, secretary and superintendent; C. W. Harden, vice-president; A. S. Held, treasurer.

NEW ENGLAND CEMETERY MEN MEET

There were about sixty members of the New England Cemetery Superintendents' Association present at the annual summer meeting, held at the Naragansett House, in Providence, R. I., on June 7 and 8. There was practically no business transacted, the occasion being devoted purely to a social outing.

The members gathered at Providence on Monday morning, and spent the day in visiting the three local cemeteries, as well

as the famous Roger Williams' park. The first place visited was the Catholic Cemetery, of which the Rev. James P. Harrington is superintendent. The next was the North Burial Grounds, over which James Warren, Jr., vice-president of the American Cemetery Superintendents' Association, presides. From here they went to Swan Point Cemetery, where Daniel Thurber is the superintendent.

At the latter place a delightful luncheon was served and a group photograph taken.

In the afternoon, Superintendent Green, of Roger Williams' park, was the host, showing the visitors through the park and entertaining them with a boat ride.

In the evening, the visitors were entertained by Superintendents Warren and Thurber at a theater party.

Tuesday morning, automobiles, provided by the local monument dealers and undertakers, conveyed the party to Westerly over a beautiful drive of about fifty miles. They arrived there shortly before noon and were



NEW ENGLAND CEMETERY SUPERINTENDENTS AT PROVIDENCE, R. I.

greeted by the members of the Westerly Granite Manufacturers' Association, who entertained them at a luncheon at the Rhode Island House. The gathering was entirely informal, but the hospitality of the Westerly granite men was very much appreciated.

Immediately after luncheon the visitors were shown around some of the famous granite quarries and cutting plants located in Westerly, after which the trip was finished by a drive along the shore road to Point Judith and Naragansett and then back to Providence.

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department.

Preventing Sinking of Graves.

Editor Asked and Answered. What is the best way to prevent single graves from sinking in?—B. C., Ill.

The question which your inquirer asks would not seem to indicate that he has had much cemetery experience and is a rather hard one to answer.

The problem of sunken graves is one of the most serious that we have to contend with in cemetery management and involves considerable expense to keep them raised. In all our perpetual care sections we always do this as soon as possible after they have fallen in, that is, we raise and level all sunken graves in the Spring and Fall when this work can best be done.

In the single grave sections which are under perpetual care of grass we also do this work without charge and as most of the sinking in occurs during the Winter and Spring there are comparatively few sunken graves during the Summer months. There is only one way that I know of to prevent the sinking in of graves and that is by using some sort of a permanent vault, such as brick, concrete, slate or steel. These are seldom used in single graves owing to the expense and limited space, and they are not very practical. The only way to prevent an unsightly single grave section is to sell single graves with perpetual care.

In our old single grave sections which are not under perpetual care we fill the worst sunken graves as fast as possible with the surplus grave dirt, when interments are made in the section, instead of carting it away; and we have just recently regraded our oldest sections and filled in the sunken places without charge. There is no way of preventing the sinking in of single graves except as above noted, and it seems to be one of the best arguments for perpetual care of grass in single grave sections.

H. S. ADAMS,

Supt., Forest Hills Cemetery.

Jamaica Plain, Mass.

I consider this question an ambiguous one, as the term of "sinking in" may be differently construed. Does the propounder of the question mean the sinking or settling of a grave, which is caused by the collapse of the box or the compacting of the earth which has been replaced on the top of the box, and which constitute conditions that I do not believe can well be humanly

avoided, or does he mean the caving in of the grave at the time of the excavating thereof, or the opening of an adjoining grave. For this latter objection, many more or less feasible schemes have been evolved, the most of which are either very expensive or very impracticable.

Past issues of your paper, I think will show at least several articles on the subject of cribbing single graves, with a view of preventing the caving thereof.

W. C. GRASSAU,

Supt., Greenwood Cemetery.

Brooklyn, N. Y.

Replacing Hide-Bound Sod.

Editor Asked and Answered: What is the best way to replace old and hide-bound sod on cemetery lots?—F. R. C., Mo.

Generally speaking, such conditions can be much improved by the usual process of combing or scarifying the sod with a fine-toothed steel rake, so as to thoroughly loosen the surface. An application of wood ashes can then be put on and again thoroughly raked in so as to incorporate the ashes with the loosened soil. If wood ashes are not available sifted bituminous coal ashes can be used, as recommended by F. D. Willis, superintendent of Oakland Cemetery, St. Paul, Minn. The surface is then in condition to receive the grass seed with a coating of good garden soil, and it is especially recommended to use plenty of Dwarf White Clover with other lawn seed.

If this is done very early in Spring, the usual rains that season ought to produce quite a growth of grass and if kept watered during Summer months, good results may be looked for; much depends upon the character of the soil, which may require some experimenting before lasting results can be looked for.

FRANK EURICH,

Supt., Woodlawn Cemetery.

Detroit, Mich.

In replacing old and hide-bound sod on cemetery lots no half-way method will be of any avail. The present conditions must be changed completely. If the area is large enough to plow, this should be done, but for various reasons it will probably be necessary to spade thoroughly, breaking up the sod as well as possible. If the soil has become sour a liberal dose of lime should be raked in. After raking very smoothly either seeding or sodding must be done, depending upon the size of the area, the

cost, and the desire to get the space covered quickly with turf. If there has been too much shade and tree roots it would be wise to remove some of the least desirable varieties of trees to permit sun, air, and moisture to do their work to prevent the sod from becoming poor again.

PAUL L. MUELLER,
Landscape Architect.

Minneapolis, Minn.

Planning a Small Cemetery.

Editor, Asked and Answered Dept.: I wish some suggestions in landscaping or designing a small cemetery. Our cemetery is 318 feet by 469 feet. Let me hear from you and oblige.—F. H., S. D.

The series of articles on the planning and developing of a new cemetery, now appearing in PARK AND CEMETERY, will, we believe, offer you many suggestions. No one can give you definite advice on your own cemetery without making a personal study of your proposition on the grounds. The first thing you do should be to get a report and a plan for the development of your ground from an expert cemetery landscape architect. Any of those advertising such service in PARK AND CEMETERY could give you the advice and assistance you need.

Rights of Trustees and Lot Owners.

Editor, Asked and Answered: In the suburbs of Boston there is a cemetery of about four acres, incorporated in 1841. A large percentage of the lots are uncared for and their representatives are not known. A plan is before the trustees to beautify and improve the cemetery by the planting of trees. Our president claims that as the annual meeting was advertised in accordance with our By-Laws, that those who do not attend impliedly assent; that those who do, should, by a majority vote, transact the business of the corporation; and, as the lot owners who did attend referred the question to the trustees, they in so doing, implied permission to plant the trees as per plan, if the trustees so wished. Is our president correct? If not, what action should be taken in order to obtain the right?—H. A. M., Mass.

The opinion of your president is correct, except so far as it may be contrary to the provisions of your By-Laws and the Act under which the cemetery association was incorporated. The By-Laws and Charter should be carefully read to see that the proposed action does not violate any of the provisions contained therein. It is a fundamental principle governing all elections and corporate and association meetings, that persons who have been duly notified of an election or meeting, by personal notice or by advertisement, and who fail to attend are presumed to consent to the action taken by the majority of those who do attend. It is quite certain that a majority of those who attend a cemetery association meeting are entitled to transact

any business pertaining to the ordinary affairs of the association which all the members could transact, unless the By-Laws require a certain number to be present at a meeting, in which case a less number is merely entitled to adjourn the meet-

ing until a quorum can be obtained. An improvement of the kind you mention can certainly be authorized at an annual meeting, especially when proper notice concerning the time and place of the same has been duly given; and it is equally clear that a

majority at such a meeting may authorize the trustees to carry out the plans adopted at the meeting, but the trustees should act strictly within the authority given them at such meeting.

A. L. H. STREET,
Attorney-at-Law.

FOUNTAINS IN THE EXPOSITION SCULPTURE

Probably the most interesting and instructive lessons in monumental sculpture of the San Francisco exposition are found in the exuberance, originality, and monumental effects of the fountains that form the most interesting feature of the exposition sculpture.

One of the most striking groups on the grounds is A. Stirling Calder's "Fountain of Energy." This fountain, with its whimsies of strange fish and mermen and mermaids playing about a globe on which is perched the rider "Energy, the Victor," celebrating his triumph over the Isthmian Way, is finely expressive of the very spirit of the exposition. It denotes the joy of purpose and the joy of accomplishment and is spirited and exuberant in the extreme. It is also light and fanciful and the product of a creative and not an imitative art, with those little winged figures springing from the rider's shoulders and blowing a fanfare of triumph about his head. In its lightness and fancifulness this fountain is quite in key with the structures in the South Gardens, the truly festal Festival Hall, the happy Pal-



FOUNTAIN OF CERES, SAN FRANCISCO EXPOSITION.
Evelyn B. Longman, Sc.

ace of Horticulture, and those bijou twins, the Press Building and the Y. W. C. A.

The sculpture (apart from that in the informal garden surrounding the Palace of Fine Arts), was all intended as part of the decorative scheme of the exposition. Famous sculptors were commissioned to prepare models upon certain themes. It was the task of A. Stirling Calder, acting chief of sculpture, to direct a number of other sculptors in the work of enlarging from the models. All of the sculpture of the exposition proper was reproduced in the imitation laminated travertine used for the exposition facades, with the result that not only the closely applied decoration and the figures in niches, but the figures and groups that stand somewhat apart, blend with the buildings and courts and seem a part of them. As the size of all the sculpture was determined by the position it was to occupy, there again is harmony of proportion with the whole. Whatever criticism there may be of individual works, the effect of the whole, is certainly felicitous.

The much-lauded Tower of Jewels, with John Flanagan's Soldier, Priest, Adventurer and Philosopher, repeated on

each of its four sides, with its great mass of richly sculptured decoration, with its 125,000 jewels hung pendulously, and with its armored horsemen, by F. M. L. Tonetti, offers one of the most elaborate settings for sculptural fountains.

Coming under the great arcade of the Tower of Jewels, we perceive passageways pierced through its arched walls to right and left, and to either side hear the music of a fountain. In the vista to the right is the sweet, docile maiden, the very personification of youth. The prim primroses under her feet, those two old people holding up their hands to support her, and those mural surfaces in bas relief on either side of the pedestal, where wistful old people sit in boats gazing with yearning eyes towards the human symbol of their lost youth, combine to make up this Fountain of Youth, by Edith Woodman Burroughs.

The Fountain of El Dorado, by Mrs. Harry Payne Whitney, may seem to sound too keenly the note of regret. Those two stern, immovable figures, holding close the portals of the golden land of imagination, towards which mortals from either side strain, speak of hopelessness. But if the fountain speaks



FOUNTAIN OF ENERGY.
A. Stirling Calder, Sc.
Tower of Jewels in Background.

of the futility of our aspirations toward the rich land of opportunity, it speaks poetically.

To Robert Aitken was entrusted the task of modeling four more than heroic size reclining figures to mark the level of the entrance to the sunken garden in the Court of the Universe; and he seems to have approached this task in a much more childlike frame of mind than he did his Fountain of the Earth in the Court of Abundance. Earth, Air, Fire and Water were given him as the subjects for the four reclining figures, and the symbols he has employed are conventional and well known, as the Phoenix and Salamander accompanying the figure of Fire, while Air is shown with wings and wears a star in her hair.

The wonderful fountain in the center of the court, the Fountain of Earth, is by Robert Aitken. Helos, the Setting Sun, at one end of a great pool, holds out a globe to light the earth. Near the center of the basin is a group of ten crouching figures. Destiny is represented by the symbol of the two great arms reaching out on either side of the pedestal,

holding in one hand the power to give life, and in the other, the taking of life away. On the first side, the side of the hand that gives, a man offers a woman the Kiss of Life, and they give their children to live on the earth. This is the beginning of things. Somewhat removed from the pedestal of the ten crouching figures is an immense globe, encircling which are four groups of human beings peopling the earth.

In the Court of Four Seasons is Evelyn B. Longman's delightful Fountain of Ceres, in which the mature goddess has just lighted on the pedestal, about which lovely maidens, done in bas relief, hold hands in the measures of a dance. On the Pylons to either side of the court are replicas of Albert Jaeger's "Feast of Sacrifice," representing a youth leading a reluctant maiden, together with a huge bull, to the sacrifice. A symbolic group by the same artist, "Nature," surmounts the large half dome at the south side of the court, and to each side of this half dome stand lovely figures of "Sunshine" and "Rain," also by Jaegers.

parkway, from Pleasant street, Woburn, to Pond street, Winchester, opened. Revere and Nahant beaches were opened and Anderson bridge completed.

A number of business men residing in the vicinity of Downey park, Clinton, Ill., have offered to erect a concrete pool and fountain, if the city will maintain it.

New Parks and Improvements.

A public park for the use and benefit of the negro race has been started by negro citizens of Temple, Texas, who have organized the Colored Park Association of Temple, with A. B. Green as president and Monroe Wells as secretary. The city council has accepted a site in South Temple, near the Santa Fe Railway hospital, donated by W. Goodrich Jones, of this city, for a park. The property is valued at \$6,000, and will soon be improved.

The ladies of Elmwood, Ill., have organized an association for the improvement of West Park and expect to add amusement devices and make it the playground of the city.

Plans are under way for the boulevarding and widening of the Main street entrance to Lakeside Park, Fond du Lac, Wis., and for the filling in of low ground, and the building of cement walks.

Colonel Morgan Jones, of the Abilene & Southern Railway, has proposed to the city of Ballinger, Tex., to build another public park near that railway's depot if the city will build cement sidewalks and macadam streets between the Santa Fe and Abilene & Southern stations.

The City Park Board, of Dallas, Tex., has adopted the Kessler plan for improvement of Lake Cliff Park. The plan provides for a large swimming pool, with general park features for the balance of the tract. The North Loop League, who are interested in this improvement, want a large lake as a park feature and will ask the board to reconsider their decision. Indications are that the board will have only about \$3,000 for park improvements this year, the balance of the estimated revenue of \$116,000 going to park maintenance and to pay interest on bonds. It is expected \$4,500 again will be appropriated for the purpose of giving free band concerts in the city parks this summer. The Dallas Society of Architects recently endorsed the building of a park adjoining the new Union station. The White Rock fishing ordinance, prohibiting fishing in the city reservoir and the use of the land adjoining the lake, has been submitted to the city commission.

A memorial fountain provided for in the will of the late Charles W. Watkins, who died on shipboard en route from Europe several years ago, soon will be placed in Garfield-Fletcher playground, Grand Rapids, Mich. Superintendent of Parks Eugene Goebel has asked for bids on the construction of the memorial, which will cost \$1,000.

PARK NEWS.

The submerged land bill, which provides for the building of the lake front park, Chicago, has been signed by Governor Dunne.

Plans preparatory to the building of the Ross County Memorial building, which is to be built in Chillicothe, O., at the Paint street entrance of the park, were discussed recently by the Park Commission. The Park Commission also decided that from now on, no amusement companies or organizations of any sort shall have the use of Poland Park for carnivals or amusements of any sort.

To change the name of City Park, of New Orleans, La., to Bienville Park and to erect a splendid monument there to the founder of New Orleans was proposed and adopted at the meeting of the Louisiana Historical Society, recently.

The United States Geological Survey will co-operate with the city of Denver in a topographical survey of what is termed the Georgetown quadrangle, including the area approximately bounded by Denver, Georgetown, Idaho Springs and Mount Evans, for the purpose of having the area incorporated in a national park. Included in the proposed new park would be Mount Evans, Echo Lake, Summit Lake, Chicago Lake, which will be made accessible by the proposed chain of mountain roads and trails.

Colonel Thomas H. Swope, founder of Swope Park, Kansas City, Mo., will be

buried in that park, and a mausoleum costing \$20,000, will soon be erected for that purpose. It has not been decided, however, whether a bridge or a monument shall be erected as a memorial to him.

The Birmingham Ledger recently gave an extended account of Warren H. Manning's plan for the development and improvement of the city of Birmingham, from an æsthetic as well as commercial standpoint. He pointed out how the city's topographical position would make it one of the largest distributing places of the South if advantage was taken of the natural resources and explained that the principal trouble with the existing plan of the Birmingham district is that there are not enough continuous up and down valley thoroughfares. A few only are continuous and of uniform width and direction.

The Metropolitan Park Commission, of Boston, Mass., recently issued their annual report for 1914. The most momentous occurrence during that year was the destruction of the northerly half of Wellington bridge by fire. No large acquisitions of land were made, but over 40 acres of land with buildings upon it, known as the Riverside Recreation Grounds, were donated by Chas. W. Hubbard, of Weston, Mass. Roadways were all put in good condition. Ravine road was relocated for a distance of about 600 feet from Woodland road, the westerly driveway of Fellsway along Fellsmere pond completed and The Woburn

STRAUS FOUNTAIN MEMORIAL TO TITANIC HEROES

One of the finest public memorial fountains in the country was recently unveiled in Straus Park, New York City, in memory of Mr. and Mrs. Isidor Straus, who lost their lives in the Titanic disaster.

In its stately, dignified lines and just proportions, the architectural portions of the memorial have been carefully studied in relation to the pool and the beautiful bronze figure to form a remarkably effective monumental composition.

Simplicity was the dominating note

in the idea of the sculptor, Augustus Lukeman and the associated architect, Evarts Tracy, of New York. Upon a low pedestal a bronze female figure representing "Memory" looks contemplatively upon the pool below.

A carved seat of granite bearing the beautiful inscription from Samuel, "Lovely and pleasant were they in their lives, and in their death they were not divided," back of the figure, completes the composition which is designed in careful relation to the lines of Straus Park

and its surroundings. There is no hint of sadness in the monument, the dominating idea being that of peace.

The monument measures 46 feet over all. The seat is 21 feet in length; the pool 34 feet. The work was executed in Green's Landing (Me.) granite by Adler's Monumental Works, of Maspeth, L. I. The bronze statue measures 7 feet 6 inches and was cast in standard bronze by Jno. Williams, Inc., of New York.



STRAUS MEMORIAL TO TITANIC HEROES, NEW YORK CITY.

OBITUARY.

Mrs. Alexander Miller, wife of Assistant Superintendent Miller, of Holyoke Cemetery, at Holyoke, Mass., passed away on June 10, after a few hours' illness with heart failure.

THE COVER ILLUSTRATION.

Nothing adds more to the dignity and impressiveness of a park or cemetery than an artistic entrance. The front cover illustration this month shows a beautifully designed ornamental iron entrance gate for Rose Hill Park, designed and produced by the Stewart Iron Works of Cincinnati, O. Both for utility and attractiveness it would be difficult to improve upon this entrance.

CEMETERY NOTES

To the Members of Association of American Superintendents: In another column of this issue you will find a list of the papers to be read at the coming Minneapolis convention. There is no question box on this program. It is hoped, however, that members who have questions to bring before the convention will immediately send them in to me in order that they may be arranged in the proper place on the program. BELLETT LAWSON, JR.,

Secretary.

The Alton City Cemetery Association recently revised their rules and regula-

tions. The principal change consists of a rule that there shall be no more high mounds made over graves; the maximum altitude being 3 inches.

The old cemetery board at Ardmore, Okla., composed of Superintendent Roberts, John S. Owens, T. C. Bridgman and William Green, have resigned.

William Kerber is at the head of a movement to open the streets through the old cemetery at Elgin, Ill.

The Senate Committee on Education and Public Welfare of Wisconsin, has recommended for concurrence the Hedding bill,

providing no public vaults, crypts or mausoleums for the permanent entombment of human bodies shall be constructed until the state board of health has approved the plans and a fund sufficient for permanent maintenance has been furnished.

The city crematory, at Richmond, Ind., recently caught on fire, but the damage done was slight.

A new cemetery law was recently passed in Galesburg, Ill., in regard to Linwood Cemetery, which provides for a regular salary for the sexton and that all lots must be purchased from the city clerk.

The bill permitting cities to receive and handle trust funds for the upkeep of cemeteries was killed by the House Committee of Illinois.

Following are some of the statistics set forth in the Annual Report of the Board of Commissioners of Pine Grove Cemetery, Lynn, Mass., for the fiscal year ending December 31, 1914: General Fund—Receipts. Sale of lots, \$12,148.56; interments, \$3,875.00; interest on perpetual care fund, \$10,102.02; appropriation, \$8,500.00; total, \$42,435.29. Expenditures: Labor, \$30,990.09; sod, dressing and fertilizer, \$1,525.59; total, \$42,435.29. Total permanent fund, \$14,938.11; total perpetual care fund, \$255,415.61.

Cemetery Officers Elected.

At the annual meeting of the River-view Cemetery Association, of Anderson, Ind., the old Board of Directors was re-elected with one new member, John Ullrich. The association is in good financial condition and has a reserve of \$26,000.

L. W. Morton, A. J. Allton and William Shyrock have been reappointed as the Cemetery Board of Canton, Ill.

An entirely new Board of Directors, consisting of William McMurtrie, D. A. Crosby and A. R. Armstrong, for three years; two years, W. B. Getchell, Mrs. I. P. Swangie and William Towner; one year, W. Roberts, Mrs. George Murphy and Andrew Myles, was chosen at the annual meeting of the Oneona Cemetery Association, Duluth, Minn. The association now has \$10,525.30 in the treasury.

The Lyons Cemetery Association, of Rapatee, Ill., has elected Mrs. Hannah Karr president and D. I. Foster secretary.

William Martens has been elected trustee of Willard Grove Cemetery, Channahon, Ill.

H. G. Justice, M. Dunlap and Cleve Waldon have been appointed a committee to superintend all work of surveying and laying off lots in the new cemetery at Fox Valley, Ore. Mrs. Julia Adkins was elected president of the cemetery association and Mrs. C. Waldon secretary-treasurer.

Mrs. Jesse Heneman has been elected president and Mrs. Augusta Eltzholtz secretary of the Ladies' Cemetery Improvement Association of Chanute, Kan.

Carl Dorwaldt has been elected secre-

tary and treasurer of the Cemetery Association of Sutton, Ill., and C. A. Loomis a member of the Board of Trustees.

At the annual meeting of the Woodlawn Cemetery Association, of Winona, Minn., Hannibal Choate was re-elected president and A. C. Dixon secretary.

At the annual meeting of the Board of Directors of Spring Hill Cemetery Association, Lynchburg, Va., the following officers were elected: President, Chas. E. Heald; vice-president, John P. Pettyjohn; secretary, William A. Miller; superintendent and treasurer, J. T. Yates.

New Cemeteries and Improvements.

The road leading from Calumet, Mich., to the Lake View Cemetery was recently resurfaced, widened and macadamized throughout.

A movement for the enlargement and improvement of Amity Cemetery, near Goodwine, Ill., was recently launched by George C. Christ and Samuel A. Wise. Over \$3,500 has been subscribed for the permanent fund, about \$500 for the maintenance fund, and \$800 for a land purchasing fund.

The ladies of the Lawton Cemetery Association, Lawton, Okla., are raising money to erect an iron fence around that cemetery and otherwise improve the grounds.

Memorial Park, a new 123-acre non-sectarian cemetery on Central street, half a mile west of Evanston, Ill., was opened recently by the Central Cemetery Co., of Chicago. John B. Schott is president and Charles E. Selleck, secretary of the association.

Plans have been made to improve St. Andrew's Catholic Cemetery, Grand Rapids, Mich., and it has been suggested that a permanent board of administration be formed and a permanent fund raised to keep the cemetery in good condition.

The Elmhurst Cemetery Co., of Elmhurst, Ill., has been incorporated by Jacob Glos, Albert H. Glos and August A. Timle, with a capital stock of \$10,000.

A fund of \$4,500 has been subscribed for the maintenance and improvement of East Wheatland Cemetery, Wheatland, Ill. A strip of land 100 feet wide was recently purchased which will extend the cemetery out to the road on the north and a new fence will be erected soon. The committee looking after the work is composed of H. B. Grommon, James Clow, Mungo Patterson, W. D. Boughton and Robert Clow.

The Byron Cemetery Association, Byron, Ill., has purchased the land occupied by the nursery of the Hiram Stires estate for an addition to the cemetery.

Rosedale Cemetery was recently incorporated at Sour Lake, Tex., by A. H. Tarver, Mrs. F. H. Carpenter and Mrs. T. O. Darby.

The ladies of the Greenwood Cemetery Association, Cedar Falls, Ia., recent-

ly erected a gateway at the entrance to Cemetery street, leading off First street to Greenwood Cemetery.

Plans are under way in Pasadena, Cal., for the establishing of a new cemetery in that city.

Murrayville, Ill., is considering the building of a new cemetery, and a committee composed of J. H. Dial, J. E. Thompson and W. B. Wright has been appointed to push the matter.

The Cemetery Board of Roanoke, Ill., recently placed a number of new lot markers in their cemetery.

Lena, Ill., recently built an addition to the City Cemetery.

A petition is being circulated in Ashkum, Ill., for the raising of funds for the upkeep of the cemetery in that city.

A new fence with concrete posts and an arched gateway will soon be erected around Big Prairie Cemetery, Carmi, Ill.

For the purpose of forming a permanent organization to preserve and beautify the old cemetery on West Second street, Tulsa, Okla., a mass meeting was recently called by John Archer, of Cherokee, formerly of Tulsa.

Plainfield Cemetery, Plainfield, Ill., has been generally cleaned up under the supervision of Sexton Al Willis.

Under the general direction of Commissioner Bauer a great amount of work has been done to improve the appearance of the grounds at Pleasant View Cemetery, Kewanee, Ill.

The committee in charge of the new cemetery at Mishawaka, Ind., has secured a tract of land lying between Indiana avenue and Mason street and the St. Joseph River as a site for the cemetery. The tract contains about twenty-eight acres and will be named the Lincoln Garden Cemetery, being adjoined on the west side by Lincoln Park.

The Hopewell Cemetery Association, Wayne County, Ind., was recently incorporated by L. O. Anderson, Benjamin Barnes and J. Freeman.

A cemetery association was organized at Fort Sumner, N. Mex., recently.

St. Patrick's Cemetery, the Roman Catholic burying ground southwest of Chanute, Kan., is being improved and the contract has been let for 600 feet of crushed rock driveway.

The members of the Catholic Church of Shullsburg, Ill., have organized a cemetery association of which Dr. A. Hayden is president and Peter Brady secretary.

A new fence has been placed around Sutton Cemetery, Lawrence, Kan., and the monuments straightened.

Messrs. McCrady Bros. & Cheves, Inc., have been given a contract for \$25,000 worth of work for the development of Riverview Cemetery, near Charleston, S. C. The contract calls for waterworks, sewerage, a residence for the superintendent and offices.

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The contract for the construction of a chapel in Greenwood Cemetery, Eureka, Kan., to cost \$956, has been let to Henry Hamilton.

At a meeting of the Town Board of Nashwauk, Minn., it was decided to spend \$2,000 beautifying the Nashwauk Cemetery.

Fairview Cemetery, Hyde Park, Boston, Mass., is to have a new administration building and chapel, if the recommendations of the Cemetery Commission of the City of Boston are accepted by Mayor Curley and the City Council. The building will be erected from a fund of \$11,000 which was turned over to the commissioners by the officials of the town of Hyde Park at the time of its annexation to Boston.

The Alhath Ahem Congregation, of Grand Rapids, Mich., is considering the purchase of a private cemetery. An acre of land on West Leonard street is now under consideration.

New Hope Cemetery Association, of Spiro, Okla., was recently incorporated by T. D. Ainsworth, of Oak Lodge; I. J. Dais, of Braden; J. F. Casey, of Spiro, and J. H. Woford, of Spiro.

Another new section of 800 lots in Oakview Cemetery, Royal Oak, Mich., has just been completed.

Forest Hills Cemetery Co. of Delaware, Philadelphia, Pa., was recently incorporated with a capital of \$500,000 by Wray C. Arnold and Harold C. Linsinger.

The work of building the chapel at the City Cemetery, of Baraboo, Wis., has been commenced. It will be 24x30 feet, of the bungalow type, and will cost about \$2,500.

A fence will soon be placed around Oneonta Cemetery, Duluth, Minn.

Elmwood Cemetery Association, of Warren, Ill., has purchased five acres of land.

Work has been commenced on the receiving vault in the Pleasant Hill Cemetery, Lexington, Ill.

A meeting was held recently in Fairview, Ill., for the purpose of forming the Beers Cemetery Association. Mrs. Mary Beer, of London Mills, was elected president and A. J. Gunnett secretary.

The members of St. Joseph Church, Clinton, Ia., have formed an organization for the purpose of beautifying and caring for the Catholic Cemetery. The officers of the association are: William Hines, president, and Thomas Tiernan, secretary.

The Greenwood Cemetery Board, of Canton, Ill., is endeavoring to interest lot holders in that city to donate to the perpetual care fund. It is hoped to raise from \$25,000 to \$30,000.

The Oakwood Cemetery Association, of Adrian, Mich., has finished a burial plat for Grand Army veterans.

Sunken graves are being filled in and shaped at the City Cemetery, Nashville, Tenn., and the cemetery generally improved.

The Cemetery Improvement Association, of Alton, Ill., will replace the fence on the west side of the City Cemetery.

The new cemetery at Lawrence, Kan., was recently improved by the construction of a new concrete road.

A movement has been on foot to mark in some way noticeable to passersby the small Bruner burying ground on the A. H. Rittenhouse farm, west of Ontario, Ill.

Steps are being taken to improve Ellenwood Cemetery, Algoma, Wis. H. C. Christensen is heading a movement to organize an association to take charge of the cemetery.

According to plans announced recently, St. Mary's Cemetery, located south of Champaign, Ill., will be improved. The work will include new driveways and new fences.

The Sterling Township Cemetery, of Sterling, Ill., is being cleaned up and improved.

George Weishaar, superintendent of the Millington Cemetery grounds, Sandwich, Ill., is making improvements in the driveways.

Crown Point Cemetery, Kokomo, Ind., has let the contract for the erection of an iron fence.

During the past year Oak Grove Cemetery, Fergus Falls, Minn., has been greatly improved. A fence has been erected and the grading and seeding down of four blocks was accomplished.

The Oakwood Cemetery Association, of Galena, Ill., has added two acres to their property and a new fence is to be built around the entire grounds.

The establishment of 12-foot driveways on the east, north and west sides of the old county cemetery at First and Water streets, Maryville, Md., and the leveling of the old burying ground where many sunken places had resulted were recently finished.

The Chinook Cemetery Association, of Great Falls, Mont., recently planted a shipment of ash and elm trees. Plans have also been made to install an irrigation system, water being taken from the irrigation ditch, where a pump and tank are to be erected.

The Cemetery Association of Hebron, Ill., will lay out additional grounds.

Mt. Olivet Cemetery Co., Frederick, Md., will erect a shelter house at a cost of about \$1,300.

A new fence, with posts of concrete and iron in the front, will soon surround Riverside Cemetery, Moline, Ill. Tumbled-down monuments will also be straightened.

Work has been commenced on the improving of the Greenwood Cemetery grounds on the Lebanon car line at

Greenwood station, about one and one-half miles from Edgemont, Ill. The association, composed of East St. Louis business men, has appropriated several thousand dollars for the improvement of the drainage system, the resurfacing of roadways and the erection of retaining walls along the roadway which traverses the side of a hill.

The City Cemetery, of Denton, Tex., has been generally improved and it has been proposed that someone be appointed to take charge of the cemetery.

A movement, endorsed by Mayor Wm. W. Pearce, of Waukegan, Ill., has been started in that city to erect a comfort station in Oakwood Cemetery.

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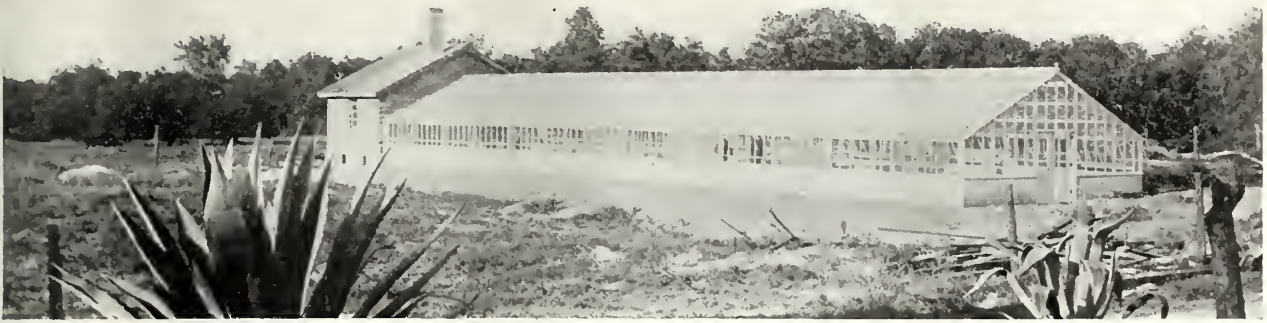
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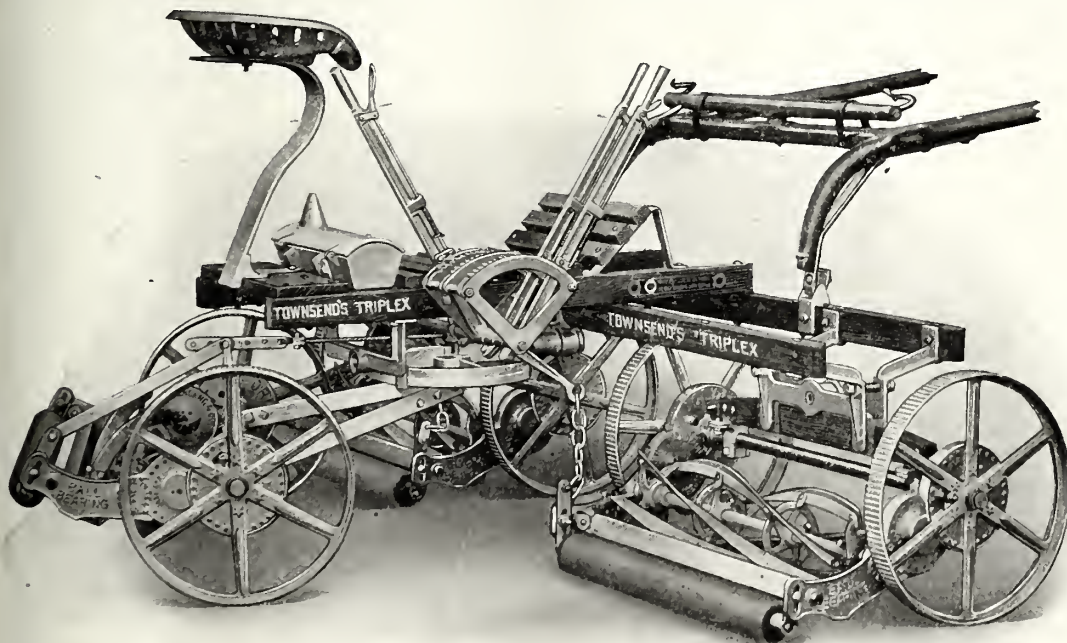
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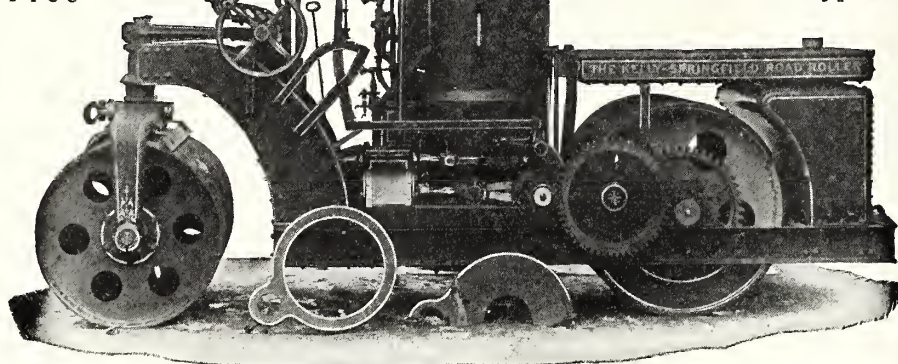
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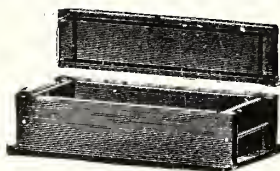
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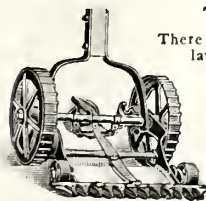
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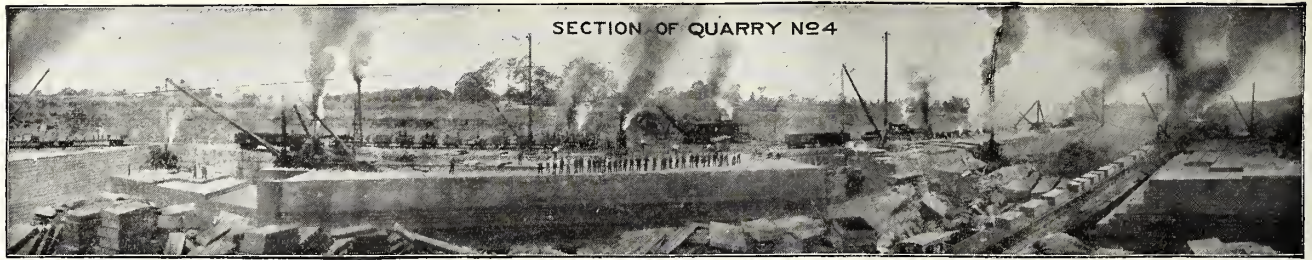
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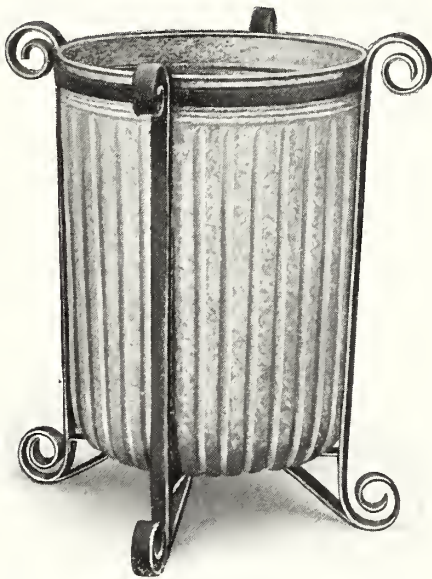
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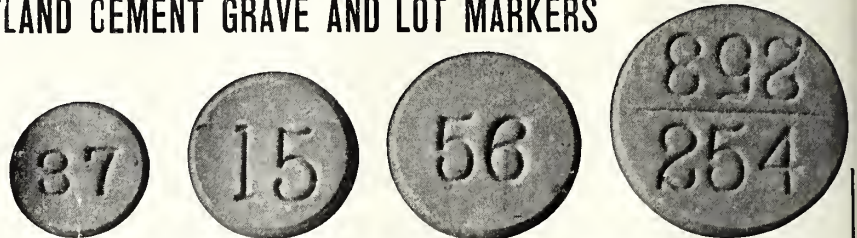
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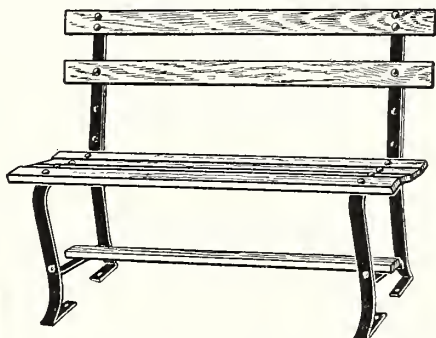
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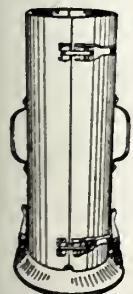
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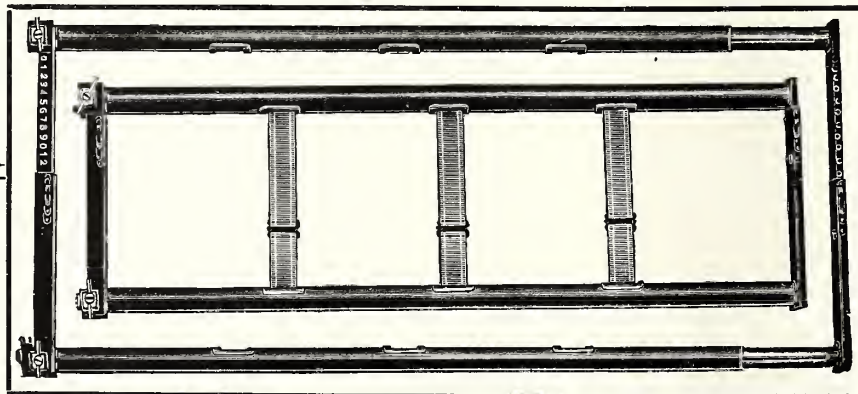
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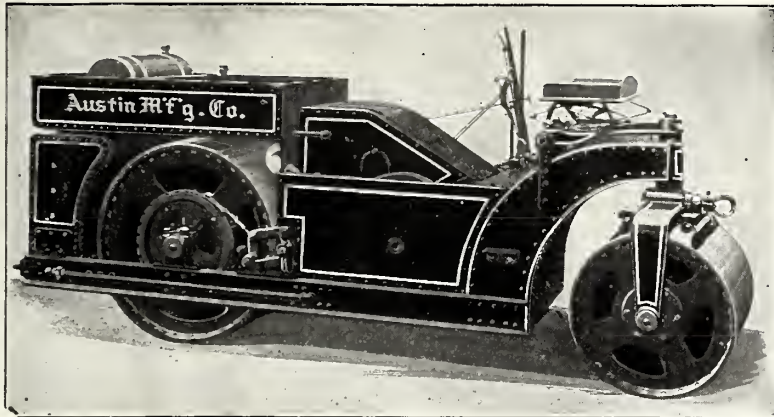
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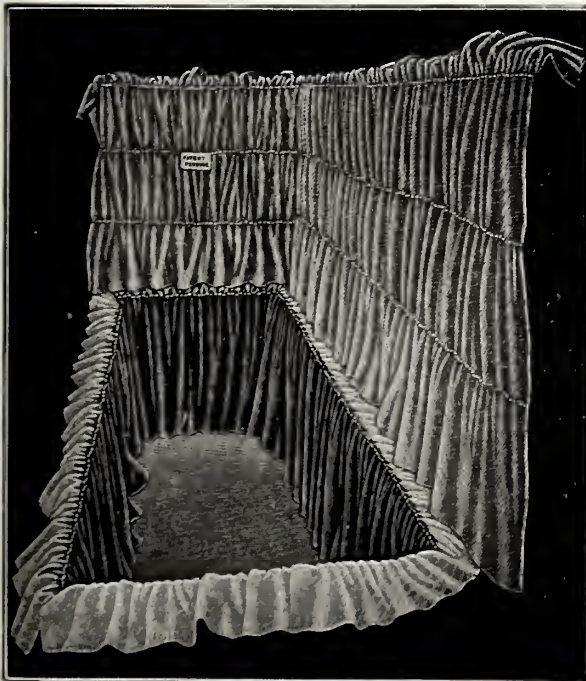
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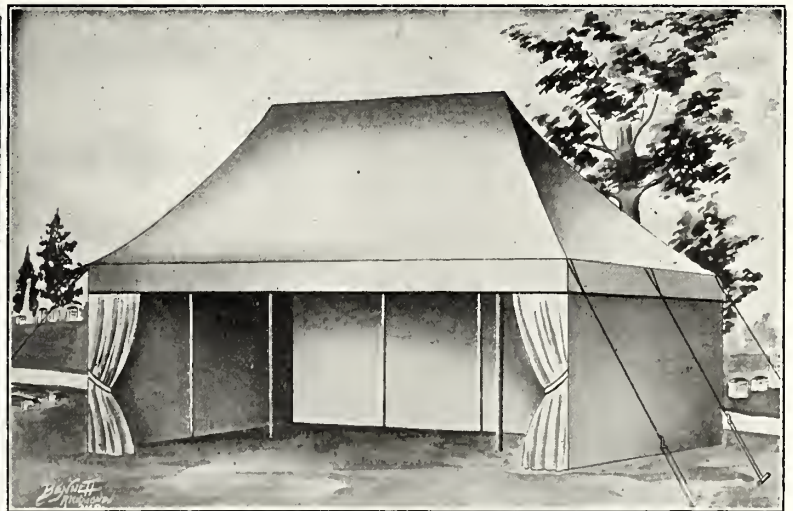
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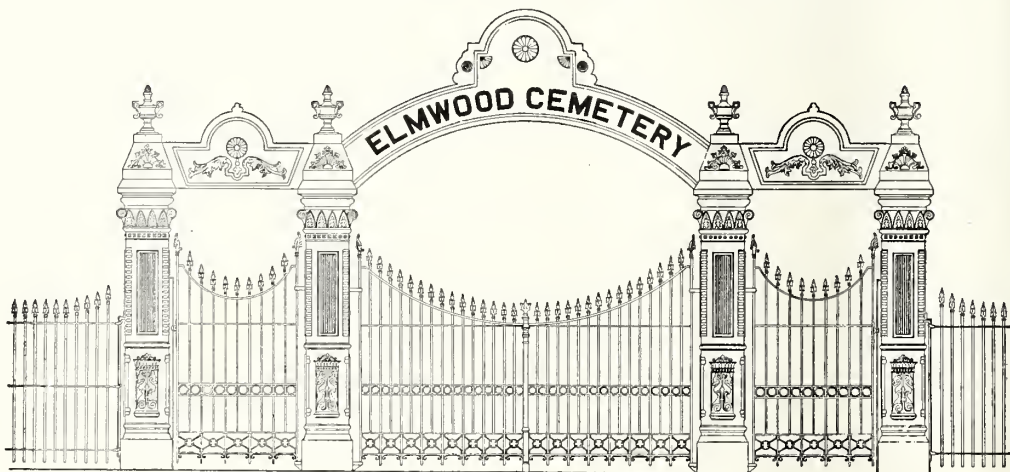
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AUGUST, 1915

SPECIAL FEATURES IN THIS ISSUE

Right of Cemetery to Control Work on Grounds—Seeing Denver's Mountain Parks—Looking Ahead Toward Planting Time—National Park Management in Canada—Principles of Cemetery Development—Organizing and Developing a Modern Cemetery



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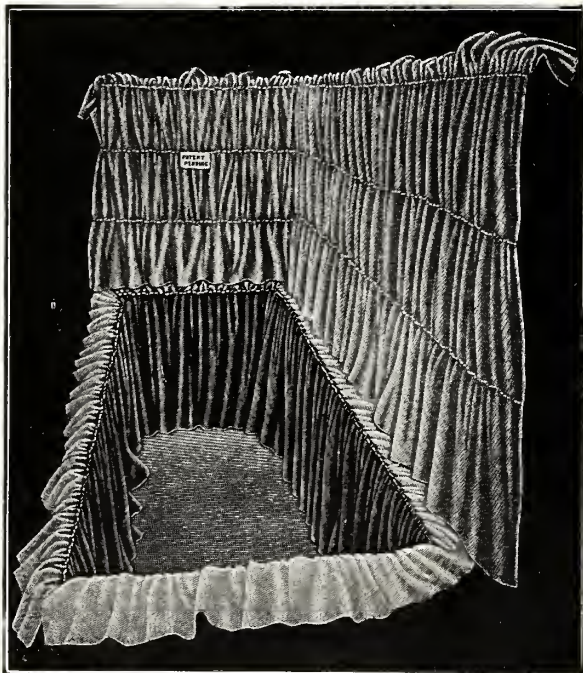


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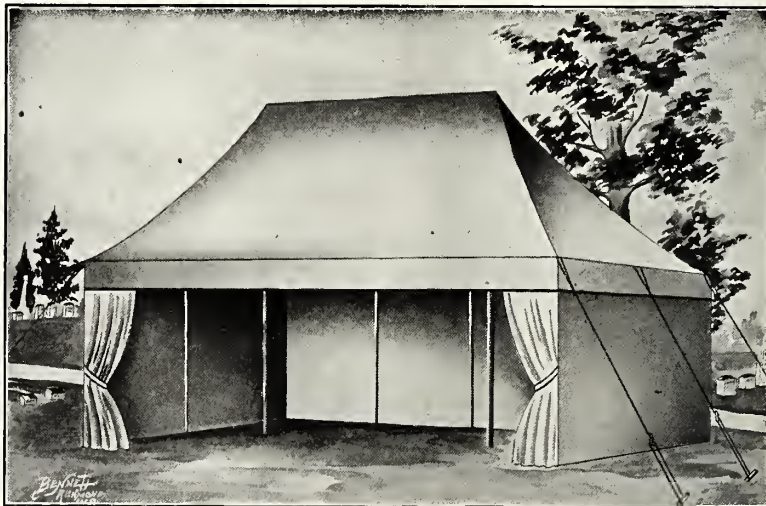
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is a study for the landscape artist. There was a time when it was little more than a collection of tomb stones. People seemed to think that it could care for itself.

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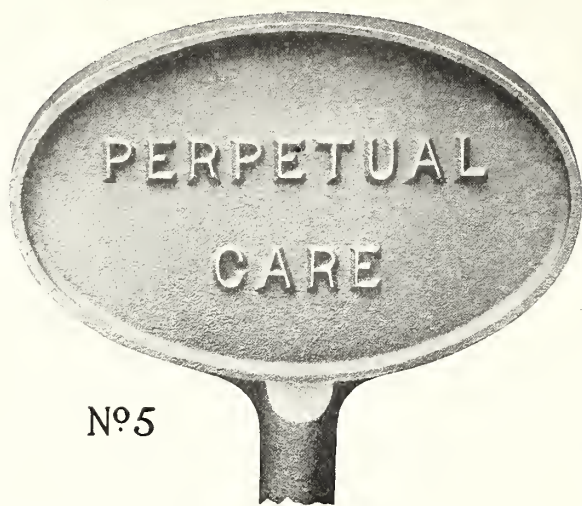
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AUGUST, 1915

EDITORIAL

VOL. XXV No. 6

Influence of Parks on Home Architecture

The remarkable system of parks that has been developed in Kansas City has frequently been the subject of description and comment in these pages, and park men throughout the country recognize the Kansas City park system as one of the models of park development. A writer in a recent issue of the *Journal of the American Institute of Architects*, pays high tribute to the parks of that city in pointing out the strong influence of park and boulevard development on domestic architecture. Says this writer: "Twenty years ago the homes of Kansas City were, with very few exceptions, commonplace houses with little architectural merit. Its streets were just as commonplace and uninteresting. Today there is probably no city in the country with such uniformly attractive residence sections and many miles of interesting streets lined with attractive homes and well-kept lawns. This is not only true of the 'millionaire colonies,' but just as true of the almost immeasurably more extensive streets of homes of moderate cost. It is no exaggeration to say that the quality of house-design has improved in Kansas City at least 500 per cent in the last fifteen years or so, and a very little analysis will discover the fairy cause of all this to be the municipal development of the park and boulevard system."

When the first boulevard was finished in Kansas City, with its scrupulously kept grass plots and planting, every house-owner whose yard fronted on that boulevard immediately took

pains to see that his lawn did not suffer by comparison with the boulevard. After the boulevard lawns were improved, the germ of tidiness and attractiveness spread to nearby streets, and so, gradually, as boulevard mileage and park acreage increased, the whole residence city improved and took on attractiveness. We all know the layman's tendency to plant trees and shrubs and flowers in geometrical orchard fashion on his lawn; but, after seeing the far greater effectiveness of the good grouping and composition of the park plantings, it was a dull citizen indeed who did not go home and at least try to do likewise, usually with very fair success.

Kansas City has never had a complete city plan, only its very comprehensive and broad park and boulevard scheme, but this park and driveway system, with the limitations of the peculiar topography of the city, have automatically and naturally developed a city plan in so far as the disposition of the business, manufacturing, and residence areas were concerned. This plan, being natural, is far more effective than one imposed by legislation. Kansas City is proud of its sixty miles of park drives lined with handsome homes and apartments, and even more of the many times, sixty miles of well-kept, attractive side streets which merely profited by the example of the boulevards, whose owners grasped the lesson brought to their doors. Thus is again pointed out that park development pays in dollars and cents, and in civic health and happiness.

Individual Rights and Cemetery Regulations

An interesting and important discussion bearing on the right of the cemetery to maintain its rules and regulations especially as to forbidding outsiders to work on the cemetery grounds, is printed on another page. The right of a cemetery to build foundations for monumental work has seldom been questioned, and the majority of the better cemeteries are now building the foundations for monuments and mausoleums. There has occasionally been serious difficulty, however, in maintaining the rule which forbids outside gardeners from doing planting on individual lots, and certain other rules which

may at times seem to abridge the freedom of the lot owner in improving his lot.

There seems to be no manner of question regarding the necessity of reasonable, but firm and unvarying regulations that shall conserve the interests of the cemetery and the lot owners as a body against the occasional eccentricities of the individual lot owner.

Every cemetery manager should study carefully the legal aspect of his rules and regulations in their relation to the decisions of the courts and the statutes of his state.

Operations of the Quack Tree Doctor

An increasing number of complaints have been received during the past four years, by The New York State College of Forestry at Syracuse concerning unsatisfactory work and exorbitant charges by co-called tree doctors. These complaints have come from all sections of the state and are the result of careless and unsatisfactory work upon shade trees in private grounds, streets and parks. The neighboring states of Pennsylvania and Massachusetts have also been overrun by these quack tree doctors who make the wildest promises as to the curing of chestnut blight and other tree troubles which our ablest scientists know that as a rule there are no easy methods of combatting or curing. There is undoubtedly a legitimate field for good tree surgery and the practice of arboriculture by men who have had both training and experience. The College is warning the citizens of New York State against fraudulent representations and impossible results promised by incompetent fellows who are ready to take advantage of sentiment regarding trees to charge exorbitant rates and to do work which may be of little benefit to the trees. Because the work is new and people do not under-

stand how cheaply good work can be done, they are being taken advantage of constantly and often being charged from two or three times more than necessary. The raising and care of forest trees for streets, home grounds and parks is nevertheless closely connected with the proper development of forestry. With a growing interest in city planting and the beautification of home grounds and country properties there is an increasing demand for men trained thoroughly for the carrying out of city street and park work, and other phases of arboriculture. This demand the schools of forestry are filling by offering professional courses in Arboriculture or City Forestry which will train men thoroughly and effectively for every phase of work connected with the planting, care and protection of shade trees, whether upon private grounds, in streets or parks. Within a few years there should be a strong body of technically trained men within the state thoroughly prepared to carry out this work effectively and able to handle the single tree of the private owner or the park and shade trees of a whole city in such a way that the title Tree Doctor or Arborist will be one of respect and not one of reproach.

PRINCIPLES OF CEMETERY DEVELOPMENT

*Extracts from an address before the Canadian Cemetery Association, by
H. B. & L. A. Dunnington-Grubb, Garden Architects, Toronto, Canada.*

Amongst early civilizations the builders of cemeteries called to their aid the greatest artists and the most perfect craftsmanship of their day. No effort was too great. No attention to minute details overlooked. This was the spirit that produced such immortal works as the pyramids, the catacombs, and, at a later period, the Taj Mahal, the tombs of Castel Barco, at Verona, and of Edward the Confessor, at Westminster Abbey.

The industrial revolution of the last century resulting in the concentration of vast numbers of people in great cities has produced immediate problems in almost every sphere of public activity involving readjustment of our ideas. This applies among other things to our system for the burial of the dead. The churchyard is no longer able to cope with the problem under the new conditions and the large highly organized civic burial ground has become a necessity.

Evidences of a revolt against the ugliness of our cemeteries have for many years been apparent especially in the United States. The last thirty or forty years have witnessed an immense improvement in American cemeteries through the influence of several famous landscape gardeners.

It was only natural perhaps that, in some instances, they should immediately jump to another extreme and lose the obvious characteristic which every cemetery ought to possess, that of a burial ground for the dead.

One of the first principles of design which applies as much to cemeteries as to anything else is that the object being designed, whether a house, a chair, or a dinner plate, should fulfill the purpose for which it is intended. A church must look like a building in which people worship God and not like a barn. We wish a railway station to look like a railway station and not like a hotel. When constructing a cemetery we demand that the place look like a cemetery and not like a pleasure park. How are these objects to be accomplished?

Success in cemetery design will not be accomplished by discarding all the principles which the cumulative experience of previous centuries has built up. The atmosphere with which ancient civilizations surrounded their tombs was one of impressive grandeur and restfulness. Owing to our inability to reproduce it few of our cemeteries possess that command over our imagination which tells us, without any inscription over the entrance, that we stand in the awful presence of death. Some cemeteries are so evidently merely closely packed burial grounds that one would pre-

fer to have their very existence kept a secret while in others there appears no obvious reason why games of tennis should not be proceeding unless a funeral procession happens to come along and remind us of the use to which the ground is being put.

Evidences of the existence of death ought

traffic distribution will be primary considerations. In order to secure dignity, a controlling feature formal in treatment to which everything else will be entirely subservient, is essential. This central feature will usually be found in the approach from the entrance to the chapel with the latter as a central climax.



MODERN CEMETERY, WITH GOOD LAWN TREATMENT AND WELL-PLACED MAUSOLEUM AND MONUMENTS.

not to be allowed to be repulsive. The place of interment of our fellow human beings ought not to be a place which we shun. It ought not even to be a place where the evidences of death must be concealed, as far as possible in an attempt to sugar the pill by trying to make it appear that it is not. The cemetery should be made, what we all try to imagine it is, a monument erected to the glorious memory of lives well spent while with us, and expressing in outward form our belief in the persistence of personality in a life beyond.

In our choice of a site as much natural beauty as possible should be obtained. Well grown trees, undulating or hilly land and, if possible, a stream or water frontage will add immensely to the attractiveness of a cemetery. If these features are unobtainable within a reasonable distance or at a reasonable price the cemetery will have to rely on the designer's ability to produce beauty by artificial means.

Having secured the site, the next step is to prepare an accurate topographical survey of the property, showing all natural features such as trees, water, outcrops of rock, etc. With this data in hand the skilled designer can commence work. His first efforts will be directed toward the location of the principal features of his scheme. The entrance and office, the church or chapel, the sites for the principal mausoleums and the main scheme of

The location of the entrance is a matter of the utmost importance, as much of the success of the cemetery will depend on it. In the treatment of the entrance the visitor will be given his first glimpse of what he must expect to find within its gates. Here he will get his first impression of the cemetery as a monument. A certain amount of formality is essential if dignity is to be secured and the necessities of an entrance adapt themselves admirably to this purpose. The cemetery office will serve the purpose of a gatehouse. Both entrance, chapel and the principal mausoleums should be designed by the same hand if unity is to be achieved. For small cemeteries the picturesqueness of the Tudor style of architecture is admirably suited, while for larger schemes the formality of the Renaissance adapts itself much more readily to a monumental treatment. The Renaissance, moreover, lends itself much more readily than Tudor or Gothic to the accomplishment of that atmosphere with which a cemetery should be surrounded.

The layout around the entrance, the main approach, and the chapel should be strictly uniform in character and should aim at a certain amount of stiffness and formality in treatment. Bright flower borders would be wholly out of place, as the feeling should be one of quiet dignity.

The restful feeling which all of us have experienced in old-fashioned churchyards is produced very frequently as much by

the shade of some gigantic yew tree as anything else, and it will undoubtedly be found that evergreen plantations of somber hue will help us more than anything else to arrive at the effect for which we are striving.

Canada is not merely so well supplied with evergreens suitable for cemeteries, unfortunately, as England. Some of the junipers, however, are most admirably suited to our purpose, as they include both the upright species (*J. Communis*) and the prostrate form (*J. Sabina*). It seems a pity that the upright juniper should not be more used in this country, as it is perfectly hardy and its fustigate habit, resembling closely the Irish yew, is quite obtainable in any other tree. This tree should be used very plentifully in all cemeteries, especially where formality is desirable.

The prostrate juniper (*J. Sabina*) is particularly suited for the choice plantations in cemeteries where flowering shrubs would be used under ordinary circumstances. This evergreen shrub, together with the dwarf mountain pine, dwarf spruce, and arbor vitae, should form the bulk of the mass plantations at important points. Evergreens should be used in cemeteries not only with the object of producing that rather somber and quiet appearance already referred to, but also on account of the fact that a cemetery is used just as much in the winter as in the summer, so that the winter effect is just as important a consideration, if not more so.

Another very useful evergreen tree which does quite well over here, but is seldom, if ever, seen, is the Japanese yew. This tree is in many respects very similar to the English yew, but somewhat freer in growth and does not make nearly such a large tree. It is admirably adapted to cemetery work.

In the vicinity of the chapel a layout more or less formal in character will be necessary. The beds could be filled with low or creeping evergreen shrubs such as the American holly (*Mahonia japonica*), the creeping euonymus (*Euonymus radicans*) and the periwinkle (*Vinca minor*).

The outlying portions of the cemetery will be dealt with in a much freer manner. The roads will be planned in such a way as to follow as closely as possible the contour of the land consistently with good curves. As regards traffic distribution, every effort should be made to secure, as far as possible, an adequate system of circulation. As the majority of the roads will not be wide enough to permit of vehicles turning round with ease, it should be made possible for vehicles in any part of the cemetery to find a more or less direct road leading either to the entrance or to the chapel without the necessity of turning round. If this object is to be secured it is obvious that a great majority of the roads will have to be planned as curves,

even if the land is comparatively level. When the land is hilly or rolling an additional reason is found for curving the roads, so as to enable them to adapt themselves most readily to the grades. In a general way curving roads will be found to give much the most pleasing effect for cemeteries except in those portions where formality is desirable, as they give a much more picturesque effect and usually result in a greater degree of interest. In planning the road system it must be remembered that no portion of the cemetery which is being used for burial purposes should be much more than 100 feet from a roadway, as the carriers should not be compelled to carry a greater distance.

In regard to the planting of outlying portions a few words must be said. The whole character of cemetery planting should vary very considerably from the planting of parks or gardens. In the majority of cases full-grown existing trees will be found on the property. These should, of course, be most carefully preserved and a good reservation allowed for around them to preserve the root system from damage.

The aim should be to mass the trees in a general way, leaving open glades and open areas in between. By all means, let us avoid covering the whole area with trees. A good sprinkling of specimen weeping trees should be introduced, together with the upright juniper, as a contrast, while here and there groups of Lombardy poplars on areas not used for burial will be effective. Of weeping trees, the Camperdown elm is probably the best; others are the weeping mulberry, birch, beech and the well-known weeping willow. In the more remote parts of the cemetery the whole planting scheme will receive a much more naturalistic treatment. Spruce or pine should be freely used, together with bold masses of flowering shrubs. Spaces at the junctions of roads, steep banks and other places where graves are not suitable should all be utilized for masses of shrubbery.

A few words must be said in regard to individual graves. There is, in the first place, the vexed question of the direction in which graves ought to be laid out. Tradition points out that for many centuries graves have been invariably laid out east and west. Some difficulty, however, has been experienced in accomplishing this result economically, owing to wasteful flankages and feather edged corners. On this account there has been a marked tendency in recent years to abandon this time-honored custom and to place the graves in any direction which happens to suit best the lay of the land and the direction of the roads. This can only be regarded as another instance of that disregard for tradition which is one of the prevailing tendencies of our age. The placing of the grave east and west is one of the ways in which outward expression can be given to our respect of death. As long as we still retain enough regard for the significance of death to compel us to ask the church to officiate at the burial of our fellow human beings, due respect for the traditions of that church should be complied with. There is in my own opinion no reason why this requirement should constitute a real difficulty. Set conditions are an aid, rather than a hindrance, to the work of the clever designer and will often suggest reasons which will guide him in his design.

Undoubtedly the most important feature of cemetery design is design of individual monuments. The planning of the cemetery may be faultless. The chapel may be a veritable gem of design. The planting may be as beautiful as skill and money can make it, but if no control is exercised over individual monuments, the impression left on the visitor will never be anything more than a jarring discord.

A cemetery is very similar in many respects to a building estate or subdivision. Both are usually run as private commercial ventures which must be made to pay their way.

Men, successful in the sale of high-



QUIET RESTFULNESS OF OLD-TIME BURIAL GROUND.

class building estates, have invariably found that restrictions governing the houses to be erected are necessary if the attractiveness of the property is not to be ruined by individual purchasers.

The cemetery should, in my opinion, be controlled in sections. In certain areas nothing should be allowed but flat tombstones. In other areas upright and flat tombstones might be permitted, while in other sections permission should be given for the erection of tombs of the sarcophagus shape. Certain lots or groups of lots should be set aside in the design at strategic points on which the erection of mausoleums and monuments should be permitted. Mausoleums and monuments, well designed and properly placed, prove a great acquisition to a cemetery, and their erection under suitable restrictions should certainly be encouraged in every possible way.

Restrictions in themselves are not sufficient to produce beauty. A censorship obviously produces nothing. It merely tears down what is already standing or prevents the accumulation of more ugliness. In order to produce beauty we must call to our aid creative genius.

In closing, a word or two must be said in connection with graves. Tawdry decorations such as immortelles, and glass cases containing bead and china flowers, should be entirely swept away. Some distinct effort at marking the boundaries of the grave should be encouraged. It may be done by means of a low stone or brick curbing, by slightly raising the grave and banking round the edges, or by a low clipped ledge or edging plant. The best substitute for box, which unfortunately does not grow here, is probably *Teucrium chamedris*, which seems to be perfectly hardy, very compact, and very dwarf grower, with a dark, dull, green leaf like a box. We have seen the old man's beard (*Artemisia abrotanum*), the Ibota privet and the sea pink all successfully used for this purpose.

Turf on the grave takes a lot of mowing. Some graves look very well finished in gravel. A permanent creeping ground cover would seem the best substitute. Quite a number of plants can be used in this way most successfully. For a dense evergreen carpet under heavy shade quite a number of plants can be found. The

periwinkle (*Vinca minor*), the creeping euonymus (*E. radicans*), *Pachysandra terminalis*, and *epimedium* are all excellently suited for this purpose. For graves where sunlight abounds we possess in this country a wealth of carpeting plants. Amongst the best are *Phlox Subulata alba* (the white form of the dwarf Canadian phlox), the *Cerastium tomentosum*, and the St. John's worts (*Hypericums*). Any of these plants will be found to suit the purpose.

On every hand we feel that the commercialism of the nineteenth century is beginning to give way to an era of keener artistic appreciation and better taste. In nothing is this more noticeable than in the improvement in architecture all over the world. This is bound to gradually develop in the mind of the public a demand for beauty and art which will, in the long run, be unable to tolerate the worst offenses in our cemeteries. We have already in Toronto some admirable examples for the possibilities of modern mausoleum architecture. These should pave the way for a new era in the design of cemetery monuments which will eventually affect every structure from the largest to the smallest.

NATIONAL PARK MANAGEMENT IN CANADA

*An address before the American Civic Association
by J. B. Harkin, Commissioner of Dominion Parks.*

I have a quarrel with the name National Park. The *National* is all right, but the *Park* is all wrong. With the conception the Canadian Parks Bureau has developed of national parks I feel that the word park is woefully inadequate. I feel that it is a misnomer. The word park has a fixed meaning in the mind of the general public and that meaning is limited and restricted by the average man's knowledge of parks—that is, small city and suburban parks. National parks, as you all know, are something vastly different; they are national beauty spots; they are national playgrounds; they are national sanatoria; they are national reservoirs of health and happiness. They are something beyond any of these. I know of no word which can adequately describe them. My belief is that, on the recognition and development of the principles behind them will largely depend the position any nation will eventually occupy with respect to world leadership in all that is worth while.

I know of no paragraph which so well suggests the spirit of national parks as the following words of your famous nature lover, John Muir:

"The tendency nowadays to wander in wildernesses is delightful to see. Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity and that mountain parks and reservations are useful, not only as

fountains of timber and irrigating rivers, but as fountains of life. Awakening from the stupefying effects of the vice of over-industry and the deadly apathy of luxury, they are trying as best they can to mix and enrich their own little ongoings with those of Nature, and to get rid of rust and disease."

"By their fruits ye shall know them." The fruit of national parks in the final analysis is the man of joyous yesterdays and confident tomorrows. Our parks bureau has approached this work not with the idea that national parks are national ornaments or national curiosities, but that the service which they can render to the Canadian of today, and especially the Canadian of the future, is not only worth while, but vital to his welfare. We recognize the good work that has been done in this country with respect to the fundamental idea behind parks development. We acknowledge the great advantage your work has been to us. Our hope is that your work and our work and the work of the town planners and social reformers and play-spirit champions will combine to produce such a human product that, while we urge our own people to "See America First," we can say to the people, "See America's Best," and that best will be the quality of its men and women.

Your association has been taking an active part in the propaganda for the establishment of a parks bureau at Washing-

ton. I therefore thought it might interest you to hear something of the character of Canada's parks organization, the principles on which it is operated, and the ideals on which its development work is based.

As an introduction to the subject I should perhaps explain that Canada's parks system consists of ten parks. With two exceptions, all are in the West. Of the western areas, two are enclosed animal parks. The others are scenic parks in the Rockies. The aggregate area of the various parks is, in round numbers, 8,000 square miles, or something over 5,000,000 acres.

In character they, perhaps, more closely resemble Switzerland than any other country which could be named. They contain innumerable glaciers, snow peaks, mountain lakes and waterfalls of great beauty, luxuriant forests and open valleys. Two of them in addition possess hot sulphur springs of marked curative powers.

Our Parks Bureau was created three years ago. The outstanding feature of the statute under which it was created and under which administration is carried on is that it is chiefly enabling legislation; that is, it adopts the principle of parks and then delegates large powers to the Governor in Council—in other words, the Federal Cabinet—to provide for the establishment and administration of parks. The act itself does not create any parks. That rests entirely with the Cabinet. It does not at-

tempt to deal in detail with the multitude of conditions which are met in connection with national parks, but delegates to the Cabinet ample powers to do so. To my mind this delegation of legislative authority is the most vital part of the Act. It provides a freedom of action in administration without which parks development would be seriously hampered. Moreover, the spirit of the Act is that national parks shall be created and maintained forever for the benefit, advantage and enjoyment of the people of Canada and that every facility in the matter of administration shall be provided to serve this purpose.

Responsibility for administration rests primarily upon the Minister of the Interior. Under the Canadian system of government each member of the Cabinet occupies a seat in Parliament and must assume in Parliament full responsibility for the administration of every branch of the department over which he presides.

The Parks Act reads: "The said parks shall, subject to the direction of the Minister of the Interior, be under the control and management of the Commissioner of Dominion Parks or such person as is selected for that purpose by the Governor in Council."

The effect of this provision is that the Commissioner of Parks and his staff constitute a distinct bureau charged with responsibility for the administration of all park matters under one head. It means a bureau devoting all its attention to every aspect of parks work, policy, development, detailed administration. But Parliamentary responsibility resting upon the Minister of the Interior, the practice necessarily is that all subjects involving new lines or policy or any questions which from their character may become subjects of discussion in Parliament are first submitted to the Minister for decision.

Organization.

The organization of the Parks Branch naturally includes an inside or head office service and an outside service. The outside staff consists of a superintendent and necessary assistants in each park and a chief superintendent, whose duty it is constantly to inspect and supervise the work of the various superintendents. He is virtually a traveling representative of the head office, expected to see that at all times the instructions of the head office are efficiently and promptly carried out.

All the officials at the head office are permanent and are under the control of the Civil Service Commission. The members of the outside staff, however, are not under the commission, but are appointed or dismissed directly by the government of the day.

Policy.

Therefore the principle was adopted that the head office should lay out all the work and that the principal duties of the individual superintendents should be to carry

out the work as assigned to them. This was considered essential to ensure an intelligent continuity of policy.

The work carried on at the head office was subdivided into various branches presided over by special officers, each efficient in the particular line of work he was to be engaged upon—general engineering, highway construction, land matters, forestry, animal life, etc. And in order to avoid the pitfalls that abound for officials who administer on theory without any knowledge of local conditions, or local officers, we have endeavored to have all the chief officers personally visit the various parks from time to time and work there long enough to become familiar with the characteristics of the personnel of the local staff and the peculiarities of the local conditions, learning from experiences of each.

No portion of parks revenue can be expended on parks work. Under our system of government all revenue collected by the various departments must be returned to the Receiver General to go into a special fund. Parks appropriations are voted each year by Parliament. The estimates on which these are based are prepared (in their final shape) by the Parks Bureau. The practice is to have each superintendent prepare estimates for his own park based on general principles laid down for him by the head office, not upon the whim or caprice of the superintendent or the activity of any interests. These are submitted to the chief superintendent, who makes whatever changes—additions or subtractions—he deems fit and transmits them to the head office, where they are carefully gone over and finally revised from the larger perspective, on lines of settled policy with respect to each park. They are then submitted to the Minister for presentation to Parliament. All money for parks purposes is voted not by individual items, not even by individual parks, but in one lump sum. The voting of the money in one sum gives the Parks Branch considerable latitude in the expenditure of the money should changed conditions indicate the wisdom of variations in that connection.

When the money is voted each superintendent is advised of the amount of money allotted to his park and of the particular items of work on which it is to be expended. The money, however, is not handed over to him, but kept in the custody of the head office. Each month the superintendent of each park prepares an estimate of the work he proposes to do during the next ensuing month, and if this is approved by the head office, an advance sufficient to cover this work is sent to him. He then proceeds with the work, paying for it out of the advance and submitting his monthly accounts to head office for audit. This system, while giving head office full control and supervision over the amount to be spent and the work to be

undertaken, at the same time permits of the prompt payment of all accounts for labor and material.

The constant control exercised by a central bureau is, I believe, essential to the satisfactory development of the parks scheme. It means uniformity of administration, expenditure based on a proper perspective of the relative needs of the various parks of any kind, and a supervision of all the parks in the light of the experience of all. It means the creation of comprehensive schemes of development in each park from the viewpoint of the general public and a continuity of policy which Frederick Law Olmstead, in outlining the requirements of the Parks Bureau, declared to be one of the first essentials.

Let me call your attention to a few concrete instances. You recently had an outbreak of foot-and-mouth disease in Chicago. The day after the announcement our animal expert handed me a detailed report upon the disease and the ease with which it can be carried by human beings. A telegram was immediately sent to the superintendents of the parks where our herds of buffalo and other animals are located, closing these parks to all visitors.

Another instance was a provision made for our future requirements in road building. In Northern Alberta there are extensive asphalt deposits. A large section of these has at the request of the Parks Branch been reserved for parks purposes. A railway is now building towards those deposits and within a year or two we shall have asphalt for all our roads at the mere cost of handling and transportation.

Again, we require a large quantity of oats for feed for animals. At our chief buffalo park, which is situated on the prairie, we have developed a farm which this year produced 15,000 bushels of oats. This will materially reduce the expenditure for feed for all the parks, since the total cost of the oats per bushel was only 17 cents, whereas the price now quoted at the nearest point is 75 cents per bushel. We are also breeding horses on this farm and in a few years expect to produce enough to supply work horses and ponies for the wardens for the entire park system.

Banff, the principal town in our principal park, promises to develop into an important resort, and the Parks Branch felt that its character and appearance (as a town) should harmonize with the stately beauty of its environment, so Thomas Mawson, the world-famous landscape artist, was engaged to remake the plans of the town-site.

A power company desired to secure storage rights in a park's lake. The rights were given, but the company was compelled to provide a pen stock in its dam for the use of the department. The department now is prepared to install a hydro-electric plant at this point to serve Banff and other towns, and it has the use

of an expensive dam without the expenditure of a cent.

To help educate the public upon the necessity of care in the use of matches, with a view to minimizing the danger of forest fires, the Branch recently arranged with the largest match factory in Canada to print, at no cost to the department, a fire warning notice on every matchbox issued.

I do not believe any of these would have been done had the administration of parks matters been chiefly the concern of individual superintendents of parks.

The view of the Parks Bureau is that parks are intended for the use of all the people of Canada. They do a great deal of good for our people by providing them with wholesome recreation and also by contributing to the development of habits of wholesome recreation. Therefore the basic idea of the Canadian Parks administration is to make the use of the parks by the public as free and untrammelled as possible. The consequence is a policy which perhaps could properly be called a free-trade one in contradistinction to the policy of regulated monopoly.

With respect to lands, anyone may acquire a lease. With regard to business, everyone is entitled to pursue any occupation or business, provided it is not inconsistent with the general purpose for which parks exist. Concerning lands, the practice is to survey townsites wherever there is likely to be any demand for building sites. The lots are offered for lease at merely nominal rentals, running from \$3 to \$15 per annum, payable half yearly. An applicant for a lot is given an agreement good for one year. This agreement provides among other things that within one year the applicant shall erect a building of a certain minimum valuation. This valuation varies in various townsites. In Banff, the most important townsite, the valuation is \$800. The applicant is not allowed to commence building operations until he has submitted plans and secured approval of them by the parks administration. The conditions outlined are insisted upon for two purposes: First, to guard against speculators blanketing the lots and thus standing in the way of the bona fide applicant; second, to guard against unsightly buildings being constructed. Failure to comply with the conditions of the agreement within the year is followed by cancellation. When the holder of an agreement has complied with the conditions he receives a 42-year lease, renewable forever. The consequence of this policy has been the development of a number of townsites and the erection of many attractive houses, some permanent, many used simply as summer residences. It has also resulted in the provision of large hotel and boarding house accommodation, with rates sufficiently varied to suit all purses. The Canadian Pacific Railway Co.

has erected fine hotels at several points throughout the parks traversed by its lines. The hotel at Banff cost over a million and a half dollars. The one at Lake Louise, only twenty-five miles away, cost in the neighborhood of a million. The Grand Trunk Pacific, which has a line through Jasper Park, is also planning to erect a million-dollar hotel at Jasper. This class of accommodation could not have been supplied if the companies had not been able to secure a lease for a considerable number of years. At Banff there are also seven smaller and less expensive hotels. It is felt that the law of supply and demand will at all times, under the circumstances, assure living accommodation for tourists and visitors.

In Canadian parks there are no stage companies with special or exclusive privileges. Anyone may go into the livery business. All that is necessary is to secure a license, the fee for which is merely nominal. The license requirement is simply to enable the department to exercise proper control. A liveryman who violates any of the regulations or who charges higher rates than those prescribed by the government promptly loses his license. This is a serious matter for him, because it means closing up his business. Even the drivers of livery rigs are licensed. This means that drivers who become intoxicated or who otherwise endanger or annoy passengers promptly lose their opportunity to make a living in the parks.

All other lines of business involving service to the public are similarly controlled.

The license system affords an easy method of eliminating incompetents, where incompetency affects the comfort or safety of tourists. Before issuing a license for some occupations certain precautions are taken. For instance, mountain guides are required to pass an examination and tests set by our chief fire and game wardens. Even ordinary livery drivers must satisfy the parks officials as to their ability to handle horses.

The "Free Trade" policy carries with it many obligations and difficulties. This is especially the case in regard to townsites. Absolute control of the townsites rests with the government and consequently it has to assume all the duties in regard to those townsites that are ordinarily carried by a municipality. Take Banff, for instance, the Branch there has installed and maintains waterworks, sewer system, sidewalks, street lighting, telephone service, garbage system, and all other services required by a community, besides providing recreation grounds, golf links, toboggan slides, and other aids to the enjoyment of the residents.

With regard to natural resources a similar freedom is permitted. The Canadian policy is to permit and encourage the development of all natural resources in the parks so long as such development can be

carried on without damage to the chief purpose for which parks exist. For instance, there may be a waterfall capable of producing a large amount of power. If, by the enforcement of stringent precautions and restrictions, this power can be developed without unduly injuring the scenery or otherwise interfering with the use of the parks as national playgrounds development is authorized. Each case is carefully investigated and dealt with purely on its merits. Parks interests are always paramount, but parks policy is to encourage industry where it can be carried on without the sacrifice of parks interests. The consequence is that in our parks mines, power schemes, etc., are not uncommon.

You will see that the Canadian policy is based on a desire to have the parks utilized by the people to the utmost. If anyone wishes to live in the parks we make it cheap and easy for him to do so. If he wants to go simply as a tourist we endeavor to make his visit one of safety, comfort and delight.

To meet these conditions the Parks Branch necessarily relates to the quality of the service of whatever kind, rendered by those dealing with the tourist; character of accommodation, protection against extortion; provision of minor attractions to fill in between the nature trips; the construction and maintenance of roads and trails of first-class character in order that the various attractions may be comfortably and safely reached; special care in the matter of the dust nuisance and the rough road nuisance; supervision over sanitary conditions, water supply, horses and vehicles, guides, drivers, charges and rates, furnishing of full and reliable information, and generally, in not only reducing discomforts to a minimum, but in so administering matters that the tourist shall be as satisfied with the treatment received while in the parks as he inevitably must be with the scenic wonders he has viewed.

The elasticity of our parks legislation has encouraged us to a wide departure from the original idea of national parks, viz., the preservation of certain portions of the country of exceptional scenic grandeur and majesty. Briefly, parks work to us in Canada is now primarily concerned in the conservation of life, whether animal life, plant life or human life.

How far this viewpoint has led our Bureau is indicated by the multiplicity of subjects, distinct from the ordinarily accepted idea of parks activities which have been dealt with during the past year.

We have had to deal with matters concerning Steffansson's White Esquimaux, the preservation of the musk-ox, the cross-breeding of buffalo and domestic cattle; we have made investigation concerning the possibility of woodland caribou ranches in northern Canada and the utilization for food purposes of the millions of barren

land caribou of the Arctic region; the development of reindeer herds in the north country to feed the natives by furnishing transportation to permit of the exploration and development of the middle north from Hudson Bay west; we have had to deal with the creation of bird sanctuaries and with the proposed treaty for the protection of migratory birds. We have gone into the subject of fur-producing areas of the north with a view to the creation of breeding sanctuaries for the fur-bearers.

In addition to all these many questions more directly related to human welfare have also seemed to call for consideration and action by the parks organization, such as children's supervised playgrounds, the movement for the restoration of the play-spirit, and the social center question and its associated ideas.

In asking for appropriations from Parliament the Parks Branch presents its case from a purely business standpoint. The acid test of any business is: will it pay dividends and will it continue to pay them? When we ask Parliament for money we submit a case to demonstrate that the establishment and development of national parks will pay. What is more we contend that there is no national enterprise that will pay better dividends, because they will pay not only in the strictly commercial dollars and cents way, but they will also pay in a still more important way—by adding to the efficiency and virility of the nation.

From a purely commercial standpoint it is well known that there is no better paying business than tourist traffic. National parks of outstanding scenic and other natural attractions constitute focal points for tourist attraction and tourist interest. Parks will pay in a commercial sense because people each year are willing to spend vast amounts of money upon tours. It is calculated that tourists annually spend in France, Italy and Switzerland a total of \$750,000,000. It has been estimated that Americans spend abroad from \$300,000,000 to \$400,000,000 each year. London, Paris and Berlin have each been collecting an annual toll from its tourists of from \$25,000,000 to \$30,000,000. Figures compiled by the New England railways indicate that in 1913 tourists spent in those States not less than \$100,000,000. Mr. W. T. Robson, organizer of the Canadian Travel Association has prepared an estimate of the expenditure of foreign tourists in Canada last year which shows that field crops, forest products and minerals are the only natural resources in Canada producing a larger revenue than tourist traffic.

The various figures demonstrate clearly the commercial potentialities of tourist traffic. Tourists go where the outstanding attractions are. Who, then, can have the temerity to place a limit upon the cash dividends to be paid by national parks such

as exist on this continent? If we take the foreign tourist figures of just one of our national parks, a simple arithmetical calculation proves that the country derived a revenue many times larger than our total expenditure on all our parks.

From a purely commercial standpoint alone, therefore, national parks would justify their existence, but to me the commercial side is only an incident. It is in regard to what they do for the vitality and virility of the people that parks pay their biggest dividends.

They pay these dividends by providing man with exceptional facilities for recreation in the out-of-doors. By tempting him to take advantage of them and by developing in him habits of life with regard to the out-of-doors whose good results will persist long after a trip to a park has terminated.

To an organization such as the American Civic Association it is not necessary for me to argue that for the good of the nation something must be done, that a great deal must be done, to counteract the adverse effect of modern social and industrial conditions upon the vitality and efficiency and happiness of mankind. Man is naturally an out-of-doors animal. Modern conditions have largely banished nature and the out-of-doors from his life. Nature is subjecting him to the inevitable retribution that follows the violation of natural laws.

If we cannot change the social conditions which are devitalizing man the next best step is to provide means by which he can periodically return to the out-of-doors. Let any individual here spend a few days or a few weeks or a few months in a national park. What does he get? He gets inspiring scenery and invigorating fresh air. He gets stimulating sunshine, and rejuvenating exercise and to vitalize all he gets play-happiness, the greatest of all tonics.

The body has a profound influence upon the mind and quite apart from the direct mental stimulus from life close to nature, his mind is clarified and energized by the effect of his bodily health. With such a body and such a mind who will say that his normal life is not also stimulated and enriched? Therefore, in this particular case the individual leaves the park in every respect a more efficient citizen. The park has paid a dividend.

Is such a dividend worth while to the nation? Emphatically, yes. The position which a nation shall occupy with respect to leadership in the world in all that is worth while depends not upon its resources of soil and forest, mine and stream, but upon the character, virility and capacity of its people. The best resources in the world are of no value unless you can have the proper kind of people to handle and develop them. A ton of iron may be worth only a few dollars. Put brains into it and turn it into watch springs and

it is worth thousands. This country and other countries are spending vast sums of money in the conservation of forests and other natural resources. All this is in vain unless it also adequately provides for the conservation of the greatest resource of all, its men and women.

The human wealth of a country must always be its chief asset. Every dividend paid by a national park adds to this wealth.

As national parks are today it is impossible for them to pay dividends on all citizens because geographical and other considerations prevent the majority of citizens using them. Obviously there are not enough parks. The aim of our Parks Bureau is that eventually no citizen of Canada, whatever his circumstances, shall be denied the opportunity of receiving and enjoying what national parks can give him.

This consideration has led our Parks Bureau to plan for national parks not only in the mountains of the west, but throughout the prairies and throughout the east. We want to bring the parks to the people. Our main purpose now is to get the parks established. We are not worrying much about their development. We want to get them while land is available and cheap. Probably there are no portions of Canada that would suffer today for lack of places for out-of-doors recreation if there was not a single park. But what of the future? We remember the moral of the speech delivered before your Association a few years ago by Ambassador Bryce:

"Now let us remember that the quantity of natural beauty in the world, the number of spots calculated to give enjoyment in the highest form are limited and are being constantly encroached upon. We in England and Scotland have lost some of the most beautiful scenery we possess because it has been taken into private estates. A great deal of the finest scenery in Scotland is now practically unapproachable by the pedestrian or the artist or the naturalist because people have appropriated it to their private purposes and keep the people out. There is no better service we can render the masses of the people than to set about to preserve for them wide spaces of fine scenery for their delight."

In its campaign for more parks in order to bring parks advantages to all the people our Bureau is in the first place seeking out new areas of outstanding scenic and other natural attractions. These we shall try to have set aside as national parks. We want to be sure that Canadians of one hundred years from now will have an equal opportunity with ourselves to enjoy the natural beauties of their country and that they will have access to them by right of citizenship. We recognize that the people of the large centres of population are the people who need parks most and at the same time are the least likely to be

able to reach them. Therefore we are endeavoring to secure the establishment of parks to specially meet their needs. In lieu of a better name we are calling these humanitarian parks. The proposition is to secure large areas within easy access of all the large cities and establish them into wilderness parks. These may not possess the spectacular scenery of some of the other parks, but all nature is beautiful and such parks can pay just as good dividends in terms of physical, mental and moral efficiency as the other parks. Such a park will provide a place where the poor of the city can get a cottage site for a merely nominal consideration, where children can be provided with outings, where boys and men can camp and fish and study nature, where the sick and delicate can find new stores of health in the great out-of-doors.

In city planning you are making provision for city parks and playgrounds for open spaces and suburban parks. You cannot live in these or fish in these or get close to nature in her wild state. These are "first aids." The humanitarian parks we have in mind will give "Parks aids"—in the national park sense.

Historic Parks.

We are also endeavoring to have parks created at every point of outstanding historic interest, as memorials of great events or places connected with our history. These will provide the recreation of the out-of-doors which is so essentially a feature of national parks work and will, at the same time, serve to educate Canadians, young and old, and stimulate their love of country. Every consideration of pa-

triotism should lead us to preserve in lasting form where all may read them, these chapters in our national history. Such landmarks arouse interest and enthusiasm as book history never can, and they should be considered as much the property of the nation by virtue of inheritance as is the history itself.

These historic parks in many cases will have to be small in area, but we consider that small park areas if suitable only for ordinary supervised playgrounds will be more effective memorials of great events and great personages than monuments of stone and bronze.

Highway Parks.

Another plan on which we are working in Canada is what we call a highway park. Every day now that motors are being so generally used the roads are becoming more and more of a factor in our civilization. They are the nerves of the country along which travel the currents of ordinary life—the threads which tie our social communities together. I look forward to a day when we shall have not only good roads but beautiful roads, shaded with graceful trees and bordered with flowering shrubs. The hawthorn hedges make England a fairyland in May, but think what it would mean to drive along roads bordered for miles with lilac or honeysuckle or apple blossoms or under mile-long avenues of elm or beech and at intervals to be able to stop and find small expansions of the roadside park scheme with recreation and picnic facilities.

You have, Mr. President, a widespread movement in this country which origi-

nated, I believe, here, which has spread to Canada and other countries. I refer to the playground movement, not in its primary form in which it advocated "play for children," but in its present wider meaning in which it says "play for everybody." The movement is re-discovering for us what we in this country had almost lost sight of, that recreation means recreation and that by denying it its proper place in life we have lost much in efficiency and happiness. At present the recreation of the people is in the hands of commercialism. They supply only the kind that pays and it seems as if the worst sort paid the best. It would appear, however, as if recreation should no more be commercialized than should education, and on the other hand it should not be left to the haphazard and unequal control of private philanthropy. We have got as far as the provision for recreation in national parks, but that is only the beginning, and if we can have a parks bureau, I believe, we also can and will in time have associated with it a recreation bureau that will develop a sane, intelligent policy and control over the whole question.

After three years' experience those of us associated with the Canadian Parks Bureau are impressed chiefly with the rapid widening of the horizon of opportunities and possibilities in the service field. We are convinced that National Parks have an important work to carry on in co-operation with those who are striving to develop the City Beautiful. The ultimate aim of all is the Nation Beautiful—the nation whose finest products are its men and women.

ORGANIZING and DEVELOPING a MODERN CEMETERY

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City, Mo.

VIII. DRAINAGE, WATER SUPPLY, AND LIGHTING.

The previous articles of this series have been confined, so far as the physical development of a cemetery is concerned, to the topics which dealt with the apparent features of the design or the subdivision of the land into the selling units. Discussion of road construction, methods of grading and planting, or preparation of lawns, were intentionally omitted, as they were subjects upon which information could be easily obtained without special application to the problems in cemeteries. There are, however, certain considerations having more or less direct application to the cemetery development which must not be overlooked during the construction work, but which do not become features of the design or arrangement, though bearing a close relation to them.

The first of these subjects may be called drainage. This includes both the removal of superfluous surface water during rains to prevent damage to roads and lawns, and the removal of ground water when

necessary to a proper depth to insure reasonable freedom from water in graves. Surface drainage must first provide for the collection of surface water to definite points or channels, then taking it into underground drains at intervals before the volume becomes destructive. The usual place for the collection of the water is on the borders of the roads in gutters. In the case of side-hill roads, if they are so constructed on the surface that there is little wash of loose stone or gravel, there seems no good reason for making a gutter on the lower side to catch the slight runoff from one-half of the paved area. This can run on the lot sections without damage. In some cases the road may pitch entirely to the inside. Roads directly in valleys naturally have to be drained from both sides, and in addition any constant or intermittent flow of water from springs in the valley to be provided for.

Where there is sufficient room between the edge of the paving and the lot line, and where grading permits, a sod gutter is most satisfactory. In a width of three

to five feet a depression of three to five inches can be secured with a dip so slight as to be hardly noticeable and into which the grade of the lot borders will merge very naturally. Drain inlets will be little seen in the grass. The distance between inlets, their size as well as the size of pipe carrying off the water, will depend upon the degree of the slope, the area drained, the soil, and other factors. These can be figured by formulas in common use or can be determined by experience.

In cases where a sod gutter is impossible or inadvisable, a rather flat concrete gutter 18 inches to 24 inches wide, without a curb, is the next choice. Such a gutter will maintain the informality which is desirable on cemetery roads. There are several forms of drain inlets with iron grating suitable for such gutters. The custom of having catch basins or silt basins in connection with the drain inlets has rather declined with the growing use of surface bound macadam roads from which there is little wash of road material. However, wherever there is danger of clog-



CONCRETE GUTTER AND DRAIN INLET.



PUMP HOUSE AND WATER TOWER IN A CEMETERY.



CONCRETE GUTTER UNDER CONSTRUCTION.

ging the sewers, either from road material or from other sources, these settling basins should be provided.

The storm water sewer system is usually not very complex or expensive in a cemetery. An outlet into some natural water course or lake can nearly always be obtained within a few hundred feet, and any large main sewers thus avoided. It is hardly necessary to say that the drains for storm water should be laid with cemented joints. The water in these drains, during heavy rains, often flows under pressure and an open joint would tend to wash away the earth about the pipe and finally undermine the gutter. In places where it is necessary to cross the lot sections with these pipes, a special right of way, or reserve, is avoided if they follow paths, and for this reason it is well to have the lot arrangement and walks planned in advance of drainage.

Sub-surface drainage is a less definite subject than surface drainage, and in many cases may not be necessary at all, owing to the porous soil or lack of ground water. In other cases, the necessity may not be realized until a few burials have been made. Places obviously in need of under drainage can be provided for most economically at the time of the original construction. In heavy soils, especially in ground underlaid with a layer of clay or hardpan, there is apt to be a considerable flow of water above the more impervious layers, which are often shallower than the depth of a grave. This water will give great difficulty and often cause the cemetery management much embarrassment unless intercepted and removed. For this purpose unglazed farm tile, laid with open joints, should be used. The outflow can be into the storm sewers or some channel, or merely on a hillside.

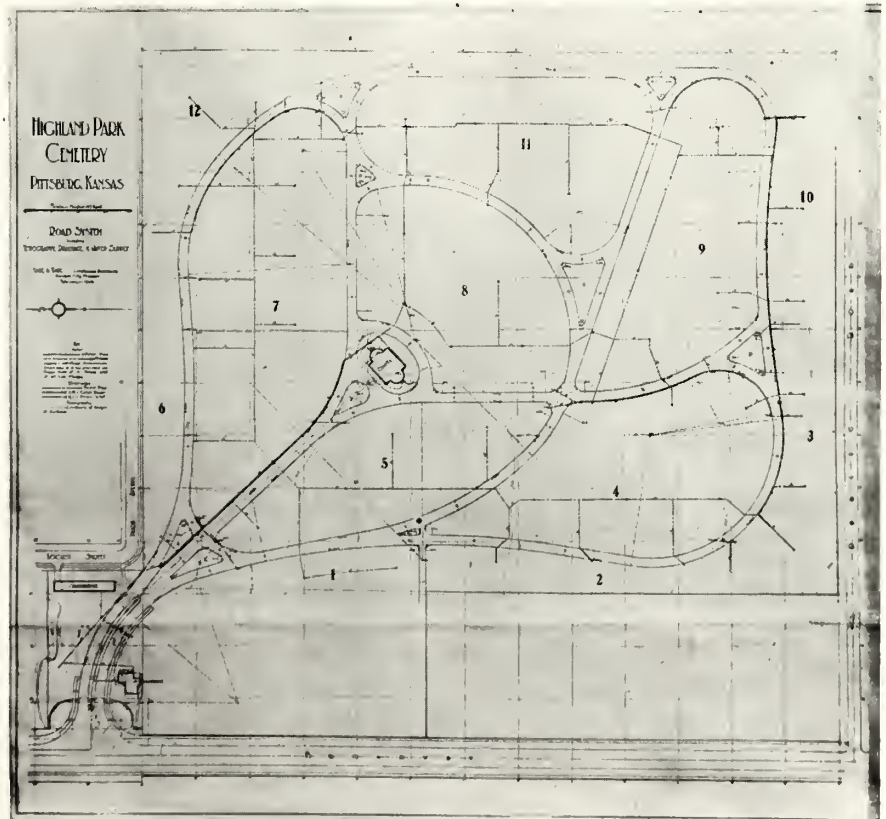
The pipes should be laid one foot below the bottom of the graves and follow-

ing the walk lines where possible in a system of laterals, connecting, perhaps, with a main pipe.

Water supply is a most necessary consideration under the climatic conditions existing in most of our country. If there is a fixed source of supply from the city or other established waterworks, the problem is greatly simplified. Pipes of sufficient size and number, with proper arrangement of valves, drains and hydrants, are the only consideration. If, however, there is no possibility of connecting with any waterworks, the problem involves the

collecting of water at a suitable source—spring, lake or well; the pumping by wind-mill, engine, motor, or hydraulic ram to a storage or pressure tank, and the distribution as above stated. Pump houses and water towers need not be unsightly. They can, with careful designing, be made ornamental features of the landscape.

In climates where the lawns need a great amount of moisture during the hot season a more elaborate water system, known as a sprinkling system, with nozzles set flush with the ground about 25 to 30 feet apart, will water large areas simultane-



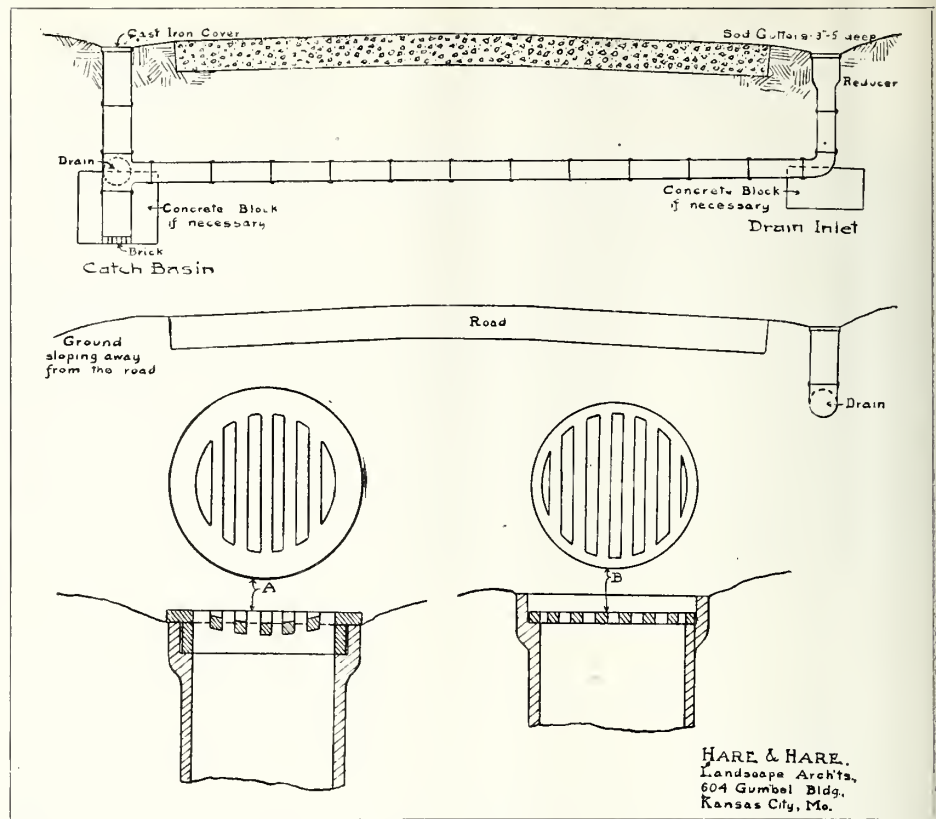
ROAD PLAN FOR HIGHLAND PARK CEMETERY, PITTSBURG, KANS. Showing location of pipes for water supply and drainage.

ously and greatly reduce the cost of labor in sprinkling. Under other conditions it is probably advisable to have outlets or hydrants located so that 100 feet of hose will reach every portion of the ground. A form of outlet known as a "street washer," which has a hose connection with a cover at the ground level, is satisfactory and can be locked if desired. A few higher hydrants, from which to fill buckets, should be provided. Pipes to be used in winter should be set below frost line, while other pipes should be provided with drainage or waste valves at the low points. Shutoff valves for cutting off any portion of the system which may be under repair, without paralyzing the entire supply, will prove a great convenience.

In the more important flower beds, a system of drain pipes for sub-irrigation will reduce the cost of cultivation, owing to the tendency for the ground to bake and crack after wetting on the surface.

Lighting is a less important subject in cemeteries. Beyond the entrance and the surroundings of the lodge and service buildings there is usually no provision made for the illumination of roads or grounds. It is difficult to predict the future demands. The possibility of evening funeral services has been seriously discussed in some quarters. Most cemeteries close their gates at sundown or dusk, and after that time they have generally been considered rather undesirable places in which to tarry.

The use of electricity for lighting, and



TYPICAL SECTION OF ROAD WITH SOD GUTTER, SHOWING DRAINAGE.

the various forms of conduits as well as steel armored, lead and jute covered cables which can be laid in shallow trenches, make the supplying of light to any portion of the ground a very simple matter. The expense of installing such a lighting

system at any time in the future would be hardly greater than during the original construction work, and the reserve areas would be ample for the conduit and wires. Overhead wires on poles should never be considered.

A. A. C. S. CONVENTION IN TWIN CITIES

The annual convention of the Association of American Cemetery Superintendents will be held in the Twin Cities, August 24 to 28. The first three days will be given up to meetings and sightseeing in Minneapolis and the fourth day to St. Paul.

Headquarters will be at the West Hotel, where the following rates will prevail:

Rooms: Single, without bath, \$1, \$1.50, \$2; double, without bath, \$1.50, \$2, \$2.50; single, with bath, \$1.50, \$2, \$2.50, \$3; double, with bath, \$2.50, \$3, \$3.50, \$4.

Cafe a la carte, popular prices: Club breakfasts, 25 to 80 cents; club luncheons, 40, 50 and 60 cents.

The local committee is planning to print a very fine souvenir program containing views of the parks, cemeteries and other points of interest in the Twin Cities, and mail them to all members of the association.

The Convention Committee for the Minneapolis convention is as follows: A. W. Hobert, Lakewood Cemetery, Minneapolis, Minn.; Wm. Eurich, Hillside, Minneapolis; J. P. O'Connor, Calvary, St. Paul, Minn.; H. M. Turner, Rose Lawn, St. Paul; F. D. Willis, Oakland, St. Paul. Bellett Lawson, Jr., superintendent of Elmwood Cemetery, River Grove, Ill., is secretary of the association.

There will be three days in Minneapolis, one of which will be devoted to sightseeing, and one day in St. Paul, making a four-day convention in all. The dates are as originally announced, namely, August 24, 25, 26 and 27.

Following is the program of the papers to be read:

"Best Method of Eliminating Unsightly Objects on Lots without Giving Offense to Owners," by C. E. Kern, of Spring Grove Cemetery, Cincinnati, O.

"Different Sources of Income for Cemetery Corporations," by James Currie, superintendent, Forest Home Cemetery, Milwaukee, Wis.

"Advantages and Disadvantages of Deferred Payments on Lots Purchased," by T. H. Little, secretary, Mt. Hope Cemetery, Chicago.

"A few Hints on Old-Fashioned Flowers," by John Reid, superintendent, Mt. Eliot and Mt. Olivet Cemeteries, Detroit, Mich.

"Brawn and Muscle," by W. N. Rudd, president, Mt. Greenwood Cemetery, Chicago.

"Bugs and Insects," by Prof. Washburn, of the Minnesota State School of Agriculture.

"Cost Accounting and Care Funds," by Robinson Farmer, Columbus, O.

A paper on fertilizers, by a representative of Swift & Co.

Debates on the following questions, each question to be debated by two prominent members of the Association, to be selected by President Wallis:

"Is it necessary to have all lots, particularly small lots accessible by a path, alley or avenue?"

"Should contracts for perpetual care of lots state specifically all work contemplated?"

"Should funeral processions upon entering the cemetery and all proceedings in the chapel and at the graves be under the sole direction of the superintendent or the undertaker?"

These debates need not necessarily be all at one meeting, but no member other than the dealer selected by the president can take part in the discussion. Any member can ask any question he may choose pertaining to the subject, but the president will call on one of the debaters to answer it.

It might not be amiss to have members of the association send to the secretary any questions they wish to put in the question box. BELLETT LAWSON, JR., Secretary and Treasurer.

PARK SUPERINTENDENTS' CONVENTION.

As this issue of PARK AND CEMETERY goes to press, members of the American Association of Park Superintendents are on their way to their annual convention in San Francisco, to be held August 18, 19 and 20.

A special tour of places of interest, both to and from the convention, is being carried out under the direction of Thos. Cook & Son.

The following is the itinerary of the trip to the convention:

Saturday, August 7—Leave New York at 11:04 a. m.

Sunday, August 8—Pennsylvania Railroad train will arrive at the Union Passenger Station, Chicago, at 8:54 a. m. and New York Central passengers at the La Salle Street Station at 7:59 a. m. The day will be spent in seeing Chicago parks as guests of the Chicago park boards, and leave from the Union Passenger Station at 6:30 p. m. over the Chicago, Milwaukee & St. Paul Railroad for Minneapolis.

Monday, August 9—Arrive in Minneapolis at 8 a. m.; full day and evening in Minneapolis. Leave at 10:45 p. m. via the Great Northern Railway.

Tuesday, August 10—En route through North Dakota and Montana.

Wednesday, August 11—Arrive at Glacier Park Station at 8 a. m. Leaving Glacier Park at 8:30 a. m., the sightseer travels in comfortable touring cars over the 36-mile automobile highway along the foothills of the Rocky Mountains to St. Mary Camp on St. Mary's Lake, where a commodious 75-passenger launch is boarded for Going-to-the-Sun Camp, ten miles distant on St. Mary Lake. Lunch is served at Going-to-the-Sun Camp, the return trip being made in the afternoon, arriving at Glacier Park Hotel at 6 p. m. A 90-mile panorama of scenic splendor unfolds itself to the eye of the tourist on this short one-day trip. Leave Glacier Station at 8 p. m.

Thursday, August 12—Arrive at Spokane at 8 a. m. Full day and evening at Spokane. Leave at 12 midnight.

Friday, August 13—Arrive Seattle at 12 noon. Afternoon, evening and next morning at Seattle.

Saturday, August 14—Leave Seattle via Puget Sound steamer at 11 a. m. Passengers pay local fare of 50 cents on steamer, as train will go deadhead to Tacoma. Rail fare included on regular trains. Leave Tacoma at midnight by train.

Sunday, August 15—Arrive at Portland 7 a. m. All day until 3.30 in Portland. Leave by the Southern Pacific Railway at 3:30 p. m. for San Francisco.

Monday, August 16—Arrive in San Francisco 6:50 p. m.

Following is the program of the convention:

Informal reception and dance, Tuesday evening, August 17, at St. Francis Hotel.

WEDNESDAY, AUGUST 18.

Morning Session—Opening ceremonies; address of welcome by Mayor Jas. Rolph; response by President Amryhn; admission of new members; reports of officers; appointment of committees; introduction of resolutions, amendments to constitution, etc.

Afternoon Session—Reports of committees; new business; papers and addresses; question box; election of officers.

Evening—Stereopticon lectures; address and papers; unfinished business; closing ceremonies.

THURSDAY, AUGUST 19.

Steamer trip around San Francisco Bay in forenoon. Luncheon at Oakland, followed by auto tour of Oakland, Alameda and Berkeley as guests of Board of Park Directors of Oakland. Return to San Francisco about 6 p. m. by steamer.

Evening—Stag smoker for the gentlemen at the Elks Club. Theater party for the ladies.

FRIDAY, AUGUST 20.

All day auto tour of inspection over the parks, playgrounds and boulevards of San Francisco; also the picturesque rural section known as "The Peninsula," luncheon being served en route, the ride terminating at the Panama-Pacific Exposition.

Evening—At the amusement features on "The Zone."

SATURDAY, AUGUST 21.

This date left open for inspection of the exposition exhibits, etc. Party leaves for San Diego Exposition and points eastward at 7:45 a. m., Sunday, August 22.

The return route contemplates stopover at Del Monte, Los Angeles, San Diego, Riverside, Salt Lake City, Pueblo, Colorado Springs, Denver, Kansas City and St. Louis.

The following is an outline of some of the addresses on the program:

Hon. Samuel Hill, President Pacific Highway Association—Mr. Hill is an international character in road building, an extensive traveler, and his illustrated lecture on "Good Roads" is a revelation in various ways.

E. B. DeGroot, Director of Physical Education, San Francisco—Mr. DeGroot is regarded as America's most eminent playground authority, having built up the wonderful South Park recreation centers in Chicago. His topic will be "The Drift of Organized Recreation."

J. H. Prost, City Forester of Chicago—Mr. Prost will present a stereopticon lecture showing the wonderful work accomplished with trees in Chicago.

L. P. Jenson, of St. Louis, will present a paper on "Public Parks as Preservers of Native Plants."

Ernst Strehle will present a paper on the St. Louis Park Department Association, a unique and successful organization.

And others.

RAILWAY GARDENING ASSOCIATION MEETING.

The Railway Gardening Association will hold its ninth annual meeting August 17 to 20 at Detroit, Mich. The Hotel St. Claire has been selected as headquarters for these meetings and special arrangements have been made for a rate of \$2.50 per day, with good rooms and three fine meals for members. Following is the program:

TUESDAY, AUGUST 17.

10 a. m.—Address of the president, Paul Huebner; report of the secretary, W. F. Hutchison; report of the treasurer, J. K. Wingert; communications.

2 p. m.—Report of Committee No. 1, Soils and Fertilizers, I. T. Worthley, chairman; report of Committee No. 2, Lawns and Banks, J. A. Byrne, chairman; report of Committee No. 3, Insects and Plant Diseases, Emil Engelman, chairman.

WEDNESDAY, AUGUST 18.

9 a. m.—Report of Committee No. 4, Plants, C. W. Eichling, chairman; report of Committee No. 5, Equipment and Operation, Frederick Stark, chairman; report of Committee No. 6, Hedges, F. W. Vail, chairman. Free discussion is desired to follow the reading of each report.

3 p. m.—Business session; report of Committee on Resolutions; election of officers; selection of meeting place, 1916.

THURSDAY, AUGUST 19 AND FRIDAY, AUGUST 20.

Trips to city parks and private estates. Schedule will be announced.

Paul Huebner, P. R. Railway, Philadelphia, is president of the association, and W. F. Hutchison, Sewickley, Pa., secretary.

THE COVER ILLUSTRATION.

The handsome entrance to Walnut Grove Cemetery, Booneville, Mo., illustrated on the front cover of PARK AND CEMETERY this month, was built a few years ago by The Stewart Iron Works Co., Cincinnati, O. The piers are Missouri stone and gates wrought iron, 16 feet wide, 5 feet high in center, and 7 feet 6 inches at the sides, made of 3/4-inch square pickets. The hinge bars are 2 inches square and the very artistic scroll work is 3/4 x 1/4 inch. Although Booneville's population is not more than 5,000, it has one of the most progressive cemetery associations in the entire state. Improvements are constantly being made as necessity requires, in keeping with modern ideas in cemetery practice. The attractive entrance and well-kept grounds are not only a credit to the members of the cemetery association and its superintendent, but the entire community.



VIEW FROM "WINDY POINT," ON DENVER'S MOUNTAIN PARK HIGHWAY UP LOOKOUT MOUNTAIN; OVERLOOKING GOLDEN. Copyright, 1914, by Wiswall Photo Co.

SEEING DENVER'S MOUNTAIN PARKS

Denver's parks are beautiful and unique. The newest is Lookout Mountain Park, a distinct novelty among municipal parks of the nation. Although from fourteen to twenty miles from the city limits proper, it is owned outright by the municipality and is built on ground bought from neighboring counties and deeded to the city by the United States Government.

Lookout Mountain Park has been planned so as to make the most of its beautiful natural setting. In the hills, at an altitude ranging from 7,000 to 9,000 feet, it commands one of the best views of any eminence in the Rockies. It is covered with verdure and is reached by an incline railroad and one of the finest mountain automobile roads in the world.

Lookout Mountain Park already has the distinction of having had built to it one of the foremost mountain boulevards in the world.

Although first opened through the park in 1914, the Lookout Mountain road has proved such a magnet for automobiles that it is now being extended on westward by Jefferson and Clear Creek counties as part of the transcontinental road across the range. Idaho Springs, forty miles west of Denver and twenty miles west of Golden, is co-operating with Denver in making a road between the three cities that will enable automobile tourists to visit Idaho Springs easily and to take advantage of its curative waters, which are high in radioactivity.

The trip to Lookout can be made from Denver entirely by automobile, as "Seeing Denver" Company has inaugurated daily

trips, leaving Denver early in the morning and returning in the evening. Perhaps nowhere in Colorado is the scenic grandeur of this trip excelled and the excellence of the roads is a revelation.

In Denver are other handsome, well-kept parks, each of which is reached by street car as well as over the finest of boulevards. City Park, Washington, Cheesman Park, Lincoln and Berkeley Parks are for free use by the public and compare with the best of Metropolitan parks in other cities. City Park has a fine zoological garden and Washington and Berkeley have bathing beaches of the best. Lakeside, Elitch's Gardens and Manhattan Beach are privately owned and a small charge is made for admission.

Colorado's crowning glory, the feature of her wonderful scenery that bids fair to prove eventually to be her greatest asset, is the Rocky Mountain National Park. This park, lying from 60 to 75 miles northwest of Denver, was created out of the region known as Estes Park, in January, 1915, by act of the National Congress. Rocky Mountain National Park is 229,062 acres in extent and therefore contains about 358 square miles. If it were square it would be about eighteen miles on a side, and its dimensions do not vary greatly from that figure in length and width.

Estes Park, from whose area was carved Rocky Mountain National Park, has long been a favored resort for tourists. The flora and fauna of the region have been a delight to the naturalist. But the new park does not include Estes Park village

or several other well-known landmarks of the older park. The eastern boundary of Rocky Mountain Park is the Forest reserve line, with the exception of the privately owned land west of Horseshoe Park, which is eliminated from park boundaries. The west boundary of the park is the forest reserve line along the Grand River.

Denver has also embarked on the business of making for itself a stately civic center, which will be completed, if plans do not fail, in 1916. The site has been cleared and work of excavating for sunken drives and gardens begun. The civic center is faced by the west elevation of the State Capital, which is a magnificent administration building on lines similar to the National Capitol at Washington. The Carnegie Library building has already been completed on the civic center.

During the past seven years Colorado has expended \$10,000,000 on its highways, and it now offers to the automobile tourist a most wonderful series of auto trips into the Great Continental Divide. Automobiles can now be driven from all parts of the East and the South directly to Denver; once here, we can offer you an entire season of delightful trips.

No one who has not experienced it can conceive the charm, the pleasure, the exhilaration and the lure of an automobile trip in the mountains of Colorado; you come to stay a few days, and it lengthens into weeks, and even then you have seen but a fraction of the wonders of the "top of the world."

Colorado has 33,000 miles of roads;



EAR CREEK, TABLE MOUNTAIN AND DENVER.

20,000 of these are passable for the automobile, 5,000 miles can be selected which are above the average of auto roads. The state has issued maps and guide books for

the tourist. Automobile supplies can be obtained all over the state. Good hotels and garages are to be found in all the larger and many of the smaller towns. Colorado

has 20,000 automobiles in use the year round.

Denver, like most other modern cities, has a sight-seeing company, which operates



THE "SWITCHBACK" ON AUTOMOBILE ROAD FROM ESTES PARK TO GRAND LAKE.

Circle shows automobile on upper road after making the turn. This is a new highway up Fall River, built by convict labor; said to be the finest scenic auto trip in Colorado.

sight-seeing automobiles, making trips to all the interesting points of the city and the foothills west of Denver.

"The Seeing Denver Company" makes the following trips:

Eighteen miles through the city; 1½ hours; fare, 75 cents.

"Seeing Denver" observation trolley car, 25 miles, 2 hours' time; fare, 50 cents.

"Seeing Mount Morrison," automobiles, 45 miles, 6 hours' time; fare, \$2.50.

"Seeing the Foothills," 51-mile trip, 3 hours' time; fare, \$1.

"Seeing the Boulevards," automobiles, (twilight trip); 20 miles, 2½ hours' time; fare, \$1.

All trips start from main office, "Seeing Denver" Company, 336 Seventeenth street.

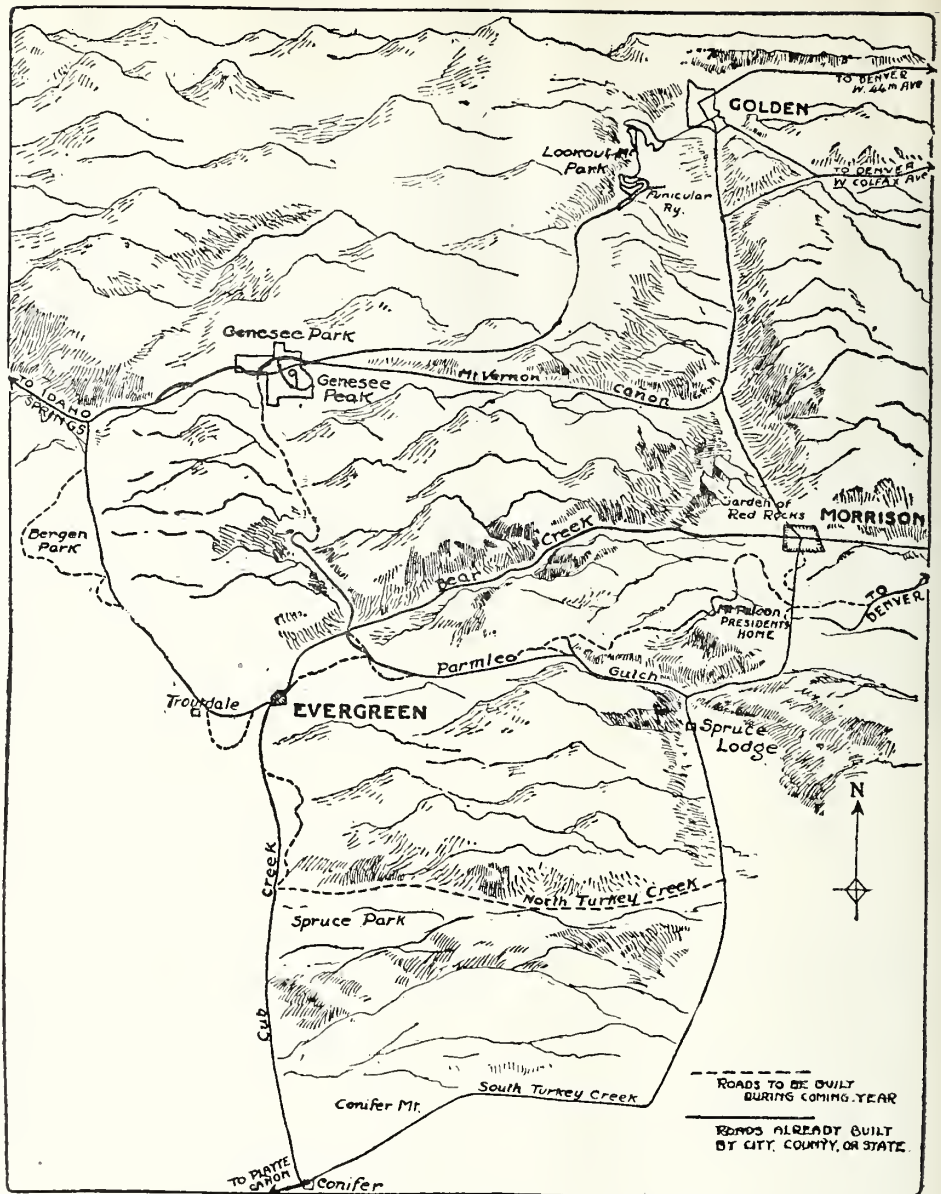
Denver's system of mountain parks is fast becoming world renowned, while yet in the infancy of its development. Practically all the labor which has brought this chain of natural parks in the fastness of the mountain within easy access of the masses by means of mountain roads that can be traversed by any vehicle, from a motor car to a bicycle, was expended in the year last past.

Denver's great municipal highway begins down in the crowded city and ends in the seemingly inaccessible mountain tops. It takes the visitor to the mountain top so easily and the grades are so gradual and the scenery so exquisite that he hardly knows he has been ascending. That was the object of the road builder.

This mountain road, which belongs to Denver, is built to mend itself, to keep itself in a state of constant repair, to flush itself, drain itself, preserve its shape. It is a perfectly formed highway, draining toward the inside, where a ditch carries away the storm waters and the seepage from flood and thaw. It means a road which has been constructed with an eye to winter snows, on which no drifts can form and which cannot be blockaded by the elements. Three roads running up the hill climb like a modern Jacob's ladder, upward, upward to the skies. Start in Denver. Three thoroughfares lead to this mountain park road. The north way is West Forty-fourth avenue, past the White City. The middle way is West Thirty-eighth avenue, past Elitch's Gardens. The south road is West Colfax avenue. All run direct to Golden, and there a hundred wonderful side trips for automobiles over these matchless roads that lead through the mountains in all directions.

The campaign to make the Rocky Mountain National Park one of the most popular summer resorts in the country is now in full swing.

The Fall River road, connecting Estes Park with Grand Lake, has been begun, but needs a considerable expenditure of



MAP OF DENVER'S MOUNTAIN PARK SYSTEM, Showing the network of connecting highways through the mountains within an hour's run of Denver.

money and work to put it in shape. This will then make one of the most beautiful circle drives from Denver through the Rocky Mountain National Park that could be planned and one that no other city can ever equal. A committee headed

by former Governor Ammons and Vice-President Johnson, of the Denver Chamber of Commerce, is urging the Governor to secure from the Department of the Interior the appropriation due from that source for the completion of the work.

NEW BOOK ON PLANNING THE HOME GROUNDS.

"How to Lay Out Suburban Home Grounds," by Herbert J. Kellaway, has just been published by John Wiley & Sons, New York. The book is well written, profusely illustrated and embodies a number of new features, four new chapters having been added. They give suggestions as to the kind of trees to plant, the use of shrubs for the beautifying of grounds, and planting of perennials, vines and annuals. Taking the book in its new edition as a whole, it is both suggestive and practical, and one that may well be studied by all de-

sirous of making the most of their grounds, be they of very modest dimensions, from both the standpoints of beauty and usefulness. The application of landscape architecture is becoming more universal not only in the large public and private undertakings, but even about the modern moderate home, for which this work was especially written. That it has accomplished much in making the home surroundings beautiful is the best reason for the believing that this new edition will be helpful. The book sells for \$2 net.

RIGHT of CEMETERY to CONTROL WORK on GROUNDS

Editor PARK AND CEMETERY: In our rules regulating the construction of foundations we claim the right to do this work or have it done by the sexton or his employees. We may have to defend our action in the courts. Do you know of any court decisions along this line, or is there anything published bearing on the legality of cemetery rules?—A. H. D., Ill.

Since this is a practical question of widespread importance, the law editor of PARK AND CEMETERY has made a careful examination of the most authoritative appellate court decisions handed down in the country and reviews them below. From these decisions it would seem that the right of a cemetery association to reserve to itself the making of improvements on individual lots depends upon the wording of the deeds to such lots and upon the by-laws of the association in effect at the time the deeds are issued. It also appears that the reasonableness of regulations adopted by the association is an important factor in determining their validity.

The case that closely fits the above question was decided by a Pennsylvania court (*Cedar Hill Cemetery Co. vs. Lees*, 22 Pennsylvania Superior Court Reports, 405). In that case it appeared that the cemetery company had adopted the following by-law:

"To prevent confusion from the introduction of a variety of workmen, the trustees have made arrangements to have all the excavating, as well as the building of foundations for enclosures and for monuments, the sodding of lots and graves and cutting of grass, planting of flowers, shrubbery, and trimming of the same, etc., performed under the direction of the superintendent at moderate prices."

In sustaining the validity of this regulation, the court said:

"Ordinarily, a cemetery is laid out and planned according to a fixed scheme as to improvement of the real estate, the erection of monuments, enclosure of lots, the character of trees and shrubbery to be planted, and ornamentation in general. Anything which interferes with this general scheme is not only detrimental and injurious to the scheme itself, but to every lot which enters into the combination. It is of the first importance, therefore, that the association should assume and retain the absolute control, as is subject to be done in and by the deeds of conveyance and by the by-laws and regulations of the plaintiff company, of the erection of monuments and partitions between lots, the planting of trees and shrubbery and the general subject of ornamentation. This, in the nature of the case, can be done only under the supervision of one person, and in this case that person is the superintendent of the cemetery, who acts under the direction of and is supposed to be fa-

miliar with the plans and purposes and general scheme of improvements of the association. * * * It is difficult to see how the rights of individual lot owners in respect to those things which are or may become objectionable to adjacent lots can be properly conserved without some such general and indeed exclusive control of the ornamentation of all lots as is provided for in the by-laws to which exception is taken. * * * There is no objection to the regulation of the plaintiff association on the ground of excessive charges or that the work necessary to be done in and about the care of lots of lot owners has not been faithfully and tastefully performed whenever requested."

In the Pennsylvania case, it appeared that a gardener who bore no relation to the association, and who was employed for some time by individual lot owners to keep their lots trimmed, was notified in October that, commencing with the first of the following year, he would be excluded from the cemetery and that the by-law above quoted would be enforced. A suit was agreed upon to test the validity of the regulation, and, as above stated, resulted in favor of the association.

But, in a later case, the Pennsylvania Supreme Court decided that where lot owners were authorized to construct mausoleums on their lots, and no regulations had been adopted restricting the location of them, it was beyond the power of the cemetery board to prevent an owner from constructing a mausoleum at the side, rather than in the center, of his lot. (*Pitcairn vs. Homewood Cemetery Co.*, 77 Atlantic Reporter, 1105.) This decision, however, cannot be deemed to affect the one above mentioned, because in the Pitcairn case there was no restriction as to where mausoleums should be constructed, when plaintiff became the owner of his lot.

A similar conclusion was reached by the Illinois Supreme Court in the case of *Rosehill Cemetery Co. vs. Hopkinson*, 29 Northwestern Reporter, 685. It was there decided that, after making a practice of granting permission for the construction of vaults on lots, the company could not arbitrarily refuse permission in a particular case on the mere ground that erection of a vault would obstruct the view of other lots. Said the court: "A rule which would confer a right upon one lot owner in regard to the improvement of his property and deny the same right to another lot owner, the managers of the cemetery have no power to make or enforce." In other words, all cemetery regulations must operate without discrimination between individual lot owners.

In another Illinois case (*Ritchey vs. City of Canton*, 46 Illinois Appellate Court Reports, 184), it was decided that where lots were sold in a cemetery at a time when

there was no regulation preventing owners from making their own arrangements for the digging of graves, and the association afterwards transferred its property to the city, the city could not adopt a valid ordinance depriving owners of the right to dig graves or have them dug by anyone they might select, so long as the work was done in a safe and proper manner. But it is to be inferred from the decision that where lots are bought when there is a regulation in force providing for the digging of graves or doing other work on a lot by employees of the association, the regulation will be enforced, for a purchaser of a lot is clearly governed by regulations existing when he buys.

The Connecticut Supreme Court of Errors has upheld the validity of a by-law forbidding planting, trimming, etc., of shrubbery, excavations, or construction of foundations, etc., except by consent and direction of the superintendent. (*State vs. Scoville*, 61 Atlantic Reporter, 63.) In this case the court recognizes the point overlooked in most of the other decisions that the public has an interest in burial grounds that deprives an individual owner of some of the absolute rights usually incident to the ownership of real estate. "Generally, one receiving from a cemetery association a deed of a burial lot does not thereby take a title to the soil itself. The rights of burial are so far public that the private interests so acquired to a limited use of particular lots for purposes of interment are subject to the reasonable police regulations of the association having charge of the same."

The New York Supreme Court held in the case of *Johnstown Cemetery Association vs. Parker*, 59 New York Supplement, 821, that a regulation forbidding lot owners from cutting grass and weeds on their lots was unreasonable. But an examination of that case shows that the deeds under which the lots were sold gave the owners the right to construct improvements and cultivate shrubbery, etc., subject to removal of improper objects by the association.

In the case of *Silverwood vs. Latrobe*, 13 Atlantic Reporter, 161, the Maryland Court of Appeals decided that where an association had recognized, for more than twenty years, the right of owners to construct their own improvements, employees of the owners could not afterwards be prevented from making improvements under direction of the lot owners.

A. L. H. STREET.

* * *

Editor PARK AND CEMETERY: It is evident that your correspondent is rather new in cemetery business, because we who have been through the mill do not allow ourselves to be worried by these threatened suits which never amount to anything. I

do not know of any special court decision, but for thirty years this cemetery has prohibited outsiders from putting in foundations, and the writer understands that it is the common practice in all the better cemeteries. A rule of this kind can be easily defended both on the ground that it is for the best interest of the lot owner as assuring him a proper foundation for his monument, and also on the ground that it is quite proper for the cemetery, which has the future care of the grounds before it, to take reasonable precautions to see that proper foundations are put in, so that future expense may not be entailed. We have also had in force for many years a rule prohibiting outside florists from doing work in the cemetery and also a rule requiring lot owners to have the graves properly prepared for planting by the cemetery employees before planting flowers. In spite of many threats of legal proceedings, these rules have never been attacked. I am inclined to doubt whether a rule absolutely prohibiting a lot owner from planting flowers would hold, but the whole spirit of the present tendency of the court is to uphold reasonable restrictions.

W. N. RUDD,

Pres., Mt. Greenwood Cem. Assn.

Chicago, Ill.

You tell our friend and brother over in Illinois that he has a perfect right to make all the rules he wishes for the protection and permanence of his cemetery and its

people. It is not only his privilege, but his duty, to make rules and regulations for the protection of his cemetery, and I am sure there is no court anywhere but what would decide in his favor. We not only reserve the right to construct the foundation, but we reserve the right to set the markers and also the bottom base of all monuments, and then we know they are absolutely right.

JOHN J. STEPHENS.

Supt., Crown Hill Cemetery.

Indianapolis, Ind.

In Massachusetts the law reads that a cemetery has the right to make rules and regulations governing their cemetery, providing same do not conflict with the statutes of the said commonwealth. I think you will find that the courts will uphold the action of cemeteries in having their rules and regulations conformed to. Of course, there must be the above rule in order to protect the cemetery.

GEORGE W. CREESY,

Supt., Harmony Grove Cemetery.

Salem, Mass.

A charter permitting a cemetery to operate usually carries with it the authority to make whatever rules and regulations the trustees or directors who are in charge may deem best for the management of the grounds. It is customary in all well-governed cemeteries for all foundation work to be done by the employees of the cemetery under the supervision of the superintendent in charge of the grounds. I

have never known of a case brought into court by anyone claiming the right to do such work and ignoring the cemetery management. It is very important for the good government of any cemetery that all the work done on or below the surface of the cemetery grounds be performed by the employees. It is just as reasonable for an individual to claim the right to dig a grave as to build a foundation for a monument or mausoleum. I have had over forty years' experience in cemetery management, but have never had a case of the character you mention come to my notice.

WM. SALWAY,

Supt., Spring Grove Cemetery.

Cincinnati, O.

Some years since we had a suit over this matter here in our cemetery and you published an account of the matter in *PARK AND CEMETERY*. We first notified the man in question that we forbade his working in the grounds, then arrested him, brought him before a local court, followed his appeal, and finally carried the case to the highest court in the state and were sustained. Our salvation consisted in the fact that our deeds stated that all lots purchased were subject to the rules then in force or that might thereafter be made. As our directors had made such a rule, this covered the point at issue.

F. S. NEWCOMB,

President, Cedar Grove Cemetery.

New London, Conn.

LOOKING AHEAD TOWARD PLANTING TIME

By E. M. Swiggett, Supt. of Parks, Utica, N. Y.

Every spring there are many people who are compelled to see the beautiful flowers and shrubs in other people's yards and realize that, only, if they had not thought a year a long time to wait, they would then be enjoying their own. It is the taking the thought and a little time, the doing it now, that makes all the difference.

Right now is the finest time in the world to order seed and nursery catalogues; get familiar with the names of all the plants, shrubs and trees you have always wanted, start planting seeds for next year's perennials, and make up your order for evergreen planting in August and tree and shrub and plant, setting out in October.

The following lists are simple, self-explanatory and contain some information in brief form, which, if not new or startling, will, I hope, be useful to those who always "have intended" along the line of home planting:

STREET TREES.

Acer Platanoides, or Norway Maple, is one of the best for general purposes, stands drought well, has a fine form, and is not subject to nearly so many pests and troubles as other maples when used for street planting.

Catalpa Speciosa, or Western Catalpa, is a fine, round-headed street tree with large leaves, handsome purplish flowers in the spring and with a much lighter green shade throughout the season than the other important street trees. This tree is not particularly subject to the smaller insect pests which go after elms and maples, but it will require more careful attention in the line of rearing and pruning, in its earlier years.

Liriodendron Tulipifera, or Tulip Tree, is a very unique tree which does very well in the middle and more northern latitudes, has a good form, attractive foliage and pale green-yellow blooms about the general size and shape of tulips.

Tilia Europaea, or European Linden, is another fine street tree with rounded leaves which are smaller than the native linden. The tree is not nearly so brittle and easily broken as our own.

Ulmus Americana is the well-known American elm which, although the most beautiful of all street trees, is subject to so many insect depredations that it is necessary to be trimming, shaping, or spraying it practically all the time. It is because of these troubles and to secure variety and

fairly rapid growth that I have given the other varieties of street trees best adapted to general city planting above.

For country roads and along park drives many other trees, including sugar maple, may be used.

In planning the placing of trees in front of your homes always consult the city forester to see what particular species of tree ought to predominate on your street—that is, when there is a city forester. Chicago, New York and many other large cities and some smaller ones have exceedingly competent city foresters who will be glad to give inquiries prompt attention and whose only wish is to serve the public to the best advantage. These men know what should be done.

MIXED PLANTATIONS FOR CORE OR BACKGROUND USE—TREES.

For giving backbone to plantations, for backgrounds, for conventional border plantations, all of the above sorts and *Alnus Glandulosa*, or Tree of Heaven, also called Japanese Sumach, *Betula* or Birch in variety, *Castanea* or Chestnut, *Carpinus* or Hornbeam, *Catalpa Bungei*, *Celtis* or Hackberry, *Cerasus-Prunus* or Cherry, *Chionothus Virginiana* or White Fringe,

Rhus Cotinus or Purple Fringe, *Cladrastis tinctoria* or Yellow-wood, *Cornus Florida*, the large, white, flowering dogwood, *Crataegus* or Thorn-Apples in variety, *Fagus ferruginea* (native), *Fagus sylvatica* (European), Beeches and also *F. sylvatica heterophylla* and *incisa*, *Gleditsia triacanthus* or Honey Locust, *Juglans nigra*, *Cinerea*, and *Regia*, the best Walnuts, *Larix Europea*, or European Larch, and so on indefinitely.

In this connection a careful study should be made to determine which of the above grow to the greatest height and which will do best on wet ground, which on dry ground, which will take to clayey soil, which will prefer good loam, and so on. If planting is to be done on a large scale, always call in the best landscape architect your pocket will afford, for by going ahead without him you may get a mess which will require much money to undo.

ORNAMENTAL SHRUBS FOR OBTAINING A SUCCESSION OF BLOOM.

I can give only a few of the best here. Catalogues will give minute descriptions and investigations in the public parks will show the results they give.

Amygdalus (*Persica*), Nana or Flowering Almond, is the "old fashioned" small bush flowering almond, really a peach, which everyone grew up with. It blooms just a trifle after *Prunus triloba*, also called flowering almond, which, when small, resembles it slightly at a distance. Both flowering almonds are fairly early and pink, blooming along with the *Forsythias* or "Golden Bells," our earliest yellow flowering shrub.

Cornus mascula, or Cornelian (Indian) Cherry, has yellow flowers ahead of the leaves and very early. It grows to quite a tree, but slowly, and is fine for mixed plantations to give variety, with its flowers in early spring and its bright red fruit in the fall.

Lonicera tartarica, or Bush Honey-suckle, has masses of pink, red or white blossoms in the spring. It commences blooming shortly after the flowering almonds start and lasts in full bloom about three weeks. It will not come into bloom exactly the same time each year, as it is very subject to early climatic conditions regarding blooming, although absolutely hardy. It grows into a very large bush and is especially good for obtaining quick results and in mass plantations.

Philadelphus coronarius and other species called the Syringas, Mock Orange, etc., are some of the most important shrubs, because they give you a late white succession, following the spireas and preceding the hydrangeas. They are very large growing shrubs and must go in the background with the *Lonicera tartarica*, and Lilacs to tie in the tree core or background plantation with the low growing plantation edgers.

Spiraea Van Houttei (*Houti*, *Houttei*), *Spiraea Thunbergii*, and many other spireas are of immense value to the landscape gardener. They give him early white shrubs, middle season pink shrubs, and late season red ones, and all of them are usefully planted either to tie in high shrubs with low ones or in accent planting, as the famous *Van Houttei*, or else as edgers as *Bumalda*, *Waterer*, and *Callosa*. All pink and pink-red are used, and as *Berberis Thunbergii*, the dwarf Japanese barberry, used also for hedges, is used.

Syringa vulgaris and *Syringa Persica*, *S. Josaekaei*, and named varieties of *S. vulgaris* are invaluable for handsome, large effects of pink, white, lilac and intermediate shades. *Syringa* here is the proper name for Lilacs; elsewhere it is given as the common name for *Philadelphus* or Mock Orange.

Weigelia Rose and *Eva Rathke* also occupy a unique position in landscape work because, especially at the North, no shrub of the size of the *Weigelia* blooming at the same time has been found to give the pink succession after the lilacs and *Loniceras* go out.

The following are good color successions, viz.:

White—*Spiraea Van Houttei* (early), *Philadelphus* (midseason), *Hydrangea arborescens* (mid to late), *H. paniculata* *Grandifl.* (late), *Hydrangea paniculata* (native, the latest).

Yellow—*Cornus mascula* and *Forsythia viridissima* (early), *Lonicera xylosteum* and *Eleagnus* or Wild Olive to follow.

Pink-Red—*Pyrus floribunda*, *Amygdalus nana* and *Prunus triloba*; *Lonicera tartarica* and *Pyrus oensis* *Bechtlii*; followed by *Weigelia* or (*Diervilla*) faced down with *Spiraea callosa*, *Bumalda*, *Anthony Waterer*, *Plumosa* and other pink plume herbaceous spireas. For scarlet flowers usually—in this latitude, northern New York—*Cydonia japonica* or Japan Quince is fine.

PERENNIALS TO GET STARTED ONE YEAR AHEAD OF BLOOMING TIME.

Aquilegia, or Columbine. Start the seeds either the season before, in July or August, or get the plants and set out the year before blossoms are wanted.

Campanula includes Canterbury Bells, which bloom in the early summer with various exquisite shades of pink, white and blue and *Campanula grandiflora*, which is the old-fashioned *Platycodon* or "Chinese Bell Flower." These Canterbury

Bells are biennials—i. e., bloom the second year after starting from seed, and should be freshly started every year so as always to have a crop coming on.

Bellis perennis, or Double Daisy, same "Burns' Daisy" and Mountain Daisy, is fine for borders, and if kept picked will bloom all summer in the East and in the spring and fall in other parts of the country.

Delphinium, or Larkspur. Get the hardy kinds which grow to a height of 4 to 6 feet, which are fine for a background in an "English" style perennial treatment along an entrance walk or roadway. Incidentally, the annual larkspurs of the stock flowered variety are very fine to start in a cold frame and face down perennial plantations with.

Dianthus plumarius, or old-fashioned single and double grass or garden pinks, are easily started any time before September and will bloom sparingly the following spring.

Dianthus barbatus, or Sweet William, is easily started from seeds and some of the plants will prove to be ever blooming in character.

Dianthus semperflorens, or Florists' everblooming, clove scented, grass pink, is very valuable and the seed is quite dear, but worth the price. The flowers resemble the Scotch pink type.

Dianthus chinensis (Var. Japanese Fringed) are the best of the wide leaf (green, rather than blue foliaged) pinks. No garden is complete or half complete without all the pinks there are.

The five leading types of "Iris" or "Fleur de Lis" or "Flags," which are *Pumila* (early and dwarf), English, German, Spanish and Japanese, the hardy phloxes, the anemones, peonies, etc., should be bought as plants and divided from year to year.

Hollyhocks, Mallows, Oriental or Opium Poppy (enormous scarlet Poppy), Iceland (the best all-round hardy Poppy there is), Crocuses, Hyacinths and other leading bulbs should all be planted in the fall.

In this article I have not intended to call attention to anything except what I find everybody wants and what is indispensable.

In brief, in planting trees and shrubs, set them with the crown—place where roots leave the stems—not more than an inch further in or out of the ground than before and pound the dirt around plants and then pound some more when planting anything.

FIELD DAY FOR CEMETERY DIRECTORS.

Oak Lawn Cemetery, Baltimore, Md., has inaugurated an interesting and novel feature of management in the form of an annual outing for the directors and stockholders. Special trolley cars are provided for the party, an inspection made of the advancement of the cemetery during the

year, and a typical Maryland dinner of soft crabs, fish and fried chicken served at one of the suburban hosteries. Such an outing took place on the 16th of June and was heartily enjoyed by ninety-five persons. All the details of cigars for the men and peanuts, candy and flowers for the ladies

were provided. Addresses were made by the president, James Young; Rev. J. Wynne Jones, of the Presbyterian Church, and others. The return to the city was made at 8 o'clock. Oak Lawn Cemetery is only eleven years old and is up to date and modern in management. Up to the present there are over 2,500 interments. Oak Lawn Cemetery was among the first to use the concrete slabbing in the graves, and to use the plank covering at the time of burial when mourners are gathered at the last sad rites. Tents and chairs are provided; the attendants are uniformed and their assistance given at all funerals, and the entire cemetery of eighty-six acres

is under perpetual care. There are no trees in the cemetery proper, as the managers believe the moisture and leaves therefrom mark and deface the monuments and headstones. On Sundays boys are provided to carry water from the pump to those persons at the different graves to enable them to water their flowers and plants. A park is being formed at one end of the ground, which is a very attractive retiring place, with picturesque view of the river and harbor, with tall trees, and benches provided for those who desire to rest there. James Young is president of the cemetery and Louis C. Klerlein secretary-treasurer.

PORTLAND ABOLISHES SUNDAY FUNERALS

Cemeteries and all allied industries have brought about the abolishing of Sunday funerals in Portland, Ore., and all cemeteries have recently issued orders that funerals will not be permitted on that day. The crematories have joined with the cemeteries in the order, and as there is little opposition to the movement the new arrangement will go into effect. J. A. Strowbridge, secretary of the Lone Fir Cemetery Association, and Theo. E. Anderson, superintendent of River View Cemetery, are largely responsible for the new order, inasmuch as they suggested it to the other cemetery organizations and readily secured their consent. Following is a copy of the agreement made by the several cemeteries and the names of those burial places that are parties to it:

"That on and after July 15, 1915, we and each of us will not permit nor allow Sunday burials within our respective places, saving and excepting therefrom such con-

tagious cases that may require immediate and prompt attention for the good of the public health; and, provided further, that this agreement is with the distinct understanding that all the cemeteries and crematoriums, a list of which is annexed hereto and made part of this agreement, shall comply with, and carry out the same to prohibit Sunday burials, except as stated herein above, and in the event of any of the within named cemeteries or crematoriums refusing to sign or comply with this agreement for the purposes therein set forth, then the same shall not be of any force or effect, and the same shall not be binding in any manner upon the parties hereto."

Portland Lone Fir Cemetery Company, Portland Crematorium Association, Mount Scott Park Cemetery and Crematory, Rose City Cemetery, Riverview Cemetery, Multnomah Cemetery, Greenwood Cemetery, Milwaukie Cemetery, and Mount Calvary Cemetery.

bathing beach, precipitous cliffs with their rocky faces worn into inconceivable forms by the washing of the waves, and abundant sea-life make this an attractive place for visitors.

Hare & Hare, landscape architects, of Kansas City, recently finished plans for the park and boulevard system for Springfield, Mo., and delivered their report and plan to the park directors. Their Kansas City (Kan.) plan and report for a park and boulevard system, furnished nearly two years ago, is now attracting the attention of a newly organized City Plan Commission, as they embodied about five or six pages on city planning for Kansas City, Kan., in the report. This park and boulevard plan and report were based upon the city plan idea, so as not to interfere with other features that were sure to come later. They are now called upon to meet with the City Plan Commission. Both members of this firm recently attended the City Planning Conference at Detroit. They have also recently closed a contract to lay out a 126-acre addition to Monongahela Cemetery, Monongahela, Pa.

The nursery business of Chas. G. Curtis, of Calicoon, N. Y., is since July 1 known as the Charles G. Curtis Co. Mr. Curtis has for the past fourteen years conducted a very successful business in collecting and growing native plants and trees, making a specialty of Rhododendron Maximum. The new member of the firm is Miss Elizabeth Metzger, of Calicoon, N. Y., who has been in Mr. Curtis' office for several years.

George E. Kessler, landscape architect, is drawing up plans for the improvement of Station Park, Kansas City, Mo. Mr. Kessler believes that the city should acquire more than the eight and a half acres now in the park to make it anything worth while.

The Park Commissioners of Wilmington, Del., recently issued their annual report for the year ending December 31, 1914. Among the work accomplished for that year was the liming, fertilizing and seeding of an athletic field west of Van Buren street in North Brandywine Park. In South Brandywine Park in the spring repairs were made to the macadam of the park drive and later the drive was given a surface coat of asphalt and screenings. The macadam of the park drive near the Bayard memorial was repaired in Rockford Park and two tennis courts constructed near the watch box. A swimming pool was completed and opened at Sixteenth and Walnut street playground on June 27 and over 1,700 people were in attendance. An effort was made to stimulate the use of the parks for all kinds of recreation, and letters were sent out to Sunday schools and churches calling attention to the picnic facilities. A considerable number made use of the parks for that purpose and a partial

PARK NEWS.

Few cities the size of San Diego, Cal., are so well provided with parks. In addition to Balboa Park, with an area of 1,400 acres entirely within the city, recently mentioned in PARK AND CEMETERY, there are several small parks of more than ordinary interest. The Plaza is a small square in the heart of the city. Its principal architectural feature is the Wilde electric fountain, presented to the city by a prominent citizen. It is beautifully illuminated every evening. Grouped around the fountain are twenty-eight palms, *Cocos plumosa*, that were planted seventeen years ago, when they were from two to two and a half feet tall; today they are handsome specimens with crowns twenty or more feet in diameter. A few blocks away, on another street, is a small public square, where trees, green lawns and ample seats afford a restful spot, also in the business

section. Mission Cliff Gardens, at the terminus of one of San Diego's street railways, and owned by that corporation, occupy 25 acres of land overlooking Mission Valley. Seasonal displays of bulbous and perennial plants make this a favorite resort for the flower-loving public. A large ornamental fountain, well stocked with gold fish; a bird house, where birds remain the year round, and a miniature Japanese garden are interesting features, while vine-clad shelters on projecting cliffs afford delightful spots from which to view the distant mountains and ocean and the historic valley that lies between. The gardens are in charge of Superintendent Davidson, an expert gardener.

At La Jolla, a dozen or more miles distant, is an ideal seaside park where the moisture from the Pacific keeps the shrubbery and lawns in excellent condition. A



*Parkway, Philadelphia, Pa.
Treated with Tarvia.*

On the great Philadelphia Parkway—

This photograph shows part of the new parkway in Philadelphia. It is bordered with broad promenades covered with beautiful pergolas.

Naturally the parkway is a popular thoroughfare for automobiles. If it had been paved with plain macadam the dust would soon have destroyed the enjoyment of the parkway and the motor traffic would quickly have torn the road to pieces.

To prevent this, the macadam was bonded with "Tarvia A" to preserve the surface and make it automobile-proof, dustless and mudless.

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count shows thirty-seven picnics with an attendance of 4,612. A comparison with last year shows a gain in attendance at the swimming pools in the parks of 20,919 and in receipts of \$132.10. The commission also acquired much new land, which is being improved and developed.

The agitation at Fort Wayne, Ind., to have a city garbage incinerating plant moved from its location on Clinton street, just south of Lawton Park, has been renewed. George Wagner has suggested that it be shifted to a location on the city property near the lighting plant. Mr. Wagner believes that some of the waste heat from the garbage plant could be harnessed and used for making steam for the lighting plant or No. 1 pumping station.

As a part of its active campaign looking toward the improvement of Minnetonka boulevard, Minneapolis, Minn., from the city limits to Minnetonka Mills, the Minnetonka Boulevard Improvement Association, of which F. H. Hawkes is president, is seeking appropriate suggestions from landscape architects. A number of descriptive articles have appeared in the local papers.

New Parks and Improvements.

W. W. Seley, of Waco, Tex., recently proposed to that city that if the water commission will donate the half block occupied by the city reservoir he will buy the other half block, to be converted into a park, the only condition being that the park be named after his father, C. M. Seley. The city recently assumed charge of the park surrounding Waco spring.

James A. Lawless, pioneer citizen of Itasca, Tex., has donated to the city the lots just east of the water works for park purposes. The park will be named in honor of Mr. Lawless.

Three thousand dollars with which to purchase a city park on the east side, Greeley, Colo., was recently voted upon by that city, and the grounds will be ac-

quired by condemnation. Plank Colvin, of Albany, N. Y., is the owner of the property.

The Soo Company has commenced work of laying out a park at the west end of their passenger station at Rhineland, Wis.

A dancing pavilion was recently erected in the park at Livingston, Ill., and is being run under the auspices of the Mt. Olivet Cemetery Association.

Commissioner Carlock, of Bloomington, Ill., is being urged to provide sidewalks from the main walk in Miller Park to the old soldiers' monument.

Half Moon Lake and adjoining grounds, Eau Claire, Wis., are being greatly improved through the interest of several citizens of that city. Among the projects which are contemplated are the improvement of boating, fishing and swimming facilities, the stocking of the island with game, and the furnishing of better accommodations for those interested in winter sports. In order to put such a systematic method of working into effect it has been decided that a society or club be formed for this purpose, and the movement has the endorsement of the Civic and Commerce Association, the Mayor and other prominent citizens.

Three blocks of the Woodlawn Avenue parkway, San Antonio, Tex., were recently completed. Two-year-old Washingtonian palms grown in the municipal nursery at Brackenridge Park have been transplanted to the parks and planted at intervals of every fifty feet. A municipal light plant, the power for which will be supplied by the San Antonio River as it passes through Brackenridge Park, and the current used to light the park as well as the driveways along River avenue, is a plan being considered by Commissioner Lambert.

The Park Board of Butte, Mont., has decided to dedicate the park between First and Second avenues, north, at Twelfth street, in memory of the late John G. Morony.

Forest Hill Cemetery to non-tax payers or non-residents of the township from \$15 per lot to \$30.

Alderman Ernest Middleton, chairman of the Public Grounds Committee, introduced a resolution which was adopted by the council, offering for sale 350 lots in Riverside Cemetery, Kalamazoo, Mich. The lots range in price from \$50 to \$250 each.

In the matter of the extension of the Windsor Cemetery, Windsor, Mich., James Anderson and Henry Clary, of Windsor, have been named as arbitrators between the cemetery board and the property owners of whom additional land for the cemetery is desired.

Injunction was taken out recently by the city of Elmhurst, Ill., to prevent the Elmhurst Cemetery Company establishing a cemetery at Cherry Farm.

New Cemeteries and Improvements.

Illinois City Cemetery was recently incorporated at Illinois City, Ill., by Melvin L. Thomas, Elmer France and R. J. Ricketts.

The Beaver Park Cemetery was incorporated at Fremont County, Colo., a short time ago by Ben F. Taylor, A. C. Larsh and J. A. Meyer.

The Wellington Cemetery Association was incorporated at Wellington, Collingsworth County, Tex., with a capital stock of \$1,400. The incorporators are: R. F. Curry, K. T. Richardson and J. T. Litchfield.

The Desplaines Avenue Cemetery Association of Chicago recently purchased from the Chicago Title and Trust Co., trustee, two tracts of land containing about sixty acres in all, on the east side of Desplaines avenue, between Sixteenth and Twentieth streets, for a stated consideration of \$139,358.

A petition is being circulated among the Ashkum, Ill., people, soliciting their support in a movement to raise funds for the maintenance of the cemetery at that place.

The hill east of Steele Cemetery, Falls City, Neb., is being graded.

The new cemetery of the Lithuanian parish of SS. Peter and Paul was dedicated recently at Grand Rapids, Mich. The cemetery contains ten acres and can accommodate 5,000 graves. It cost \$2,250.

A \$10,000 bond proposition to annex twenty acres to the Galva Cemetery, Galva, Ill., was voted upon favorably by the citizens of that city.

The Ladies' Auxiliary of the Shaareth Israel Synagogue, Dallas, Tex., are making extensive improvements in the grounds of the Jewish cemetery. The cemetery will be graded, new gravel driveways laid and concrete walks put in each section. A new entrance and fence are also being constructed and the total cost of the improvements amounts to about \$2,000.

CEMETERY NOTES

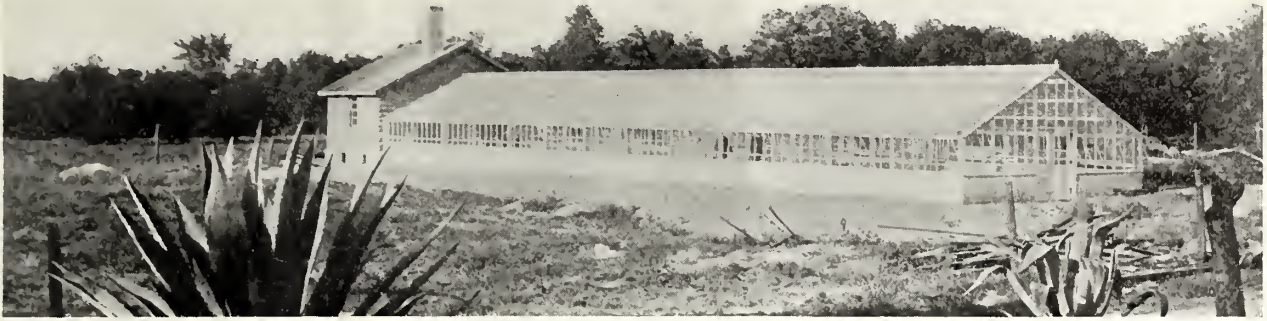
The Order of Brith Abraham Cemetery Association, of Minneapolis, Minn., has applied in district court for appointment of commissioners to condemn lots 38 and 39 of Sabin's Lake Harriet Garden lots, asserting the property is needed for extension of the cemetery. The cemetery association now owns lots 37 and 40 and declares it has been unable to purchase the two intervening lots and desires that the court appoint commissioners to fix a valuation on the lots.

Monuments, statues and headstones in two sections of Calvary Cemetery, St. Louis, Mo., were overturned and

broken by vandals recently, causing damage estimated at several thousands of dollars. The two sections are in the old division of the cemetery at the northeastern portion of the grounds.

Under the provisions of a bill signed by Governor Dunne, of Illinois, the burial place of every soldier and sailor in Illinois must be designated in a certificate to be filed with the county clerk of the county in which the cemetery is located. The bill was fostered by the Woman's Relief Corps of Illinois.

The Portage (Mich.) township board has raised the price of cemetery lots at



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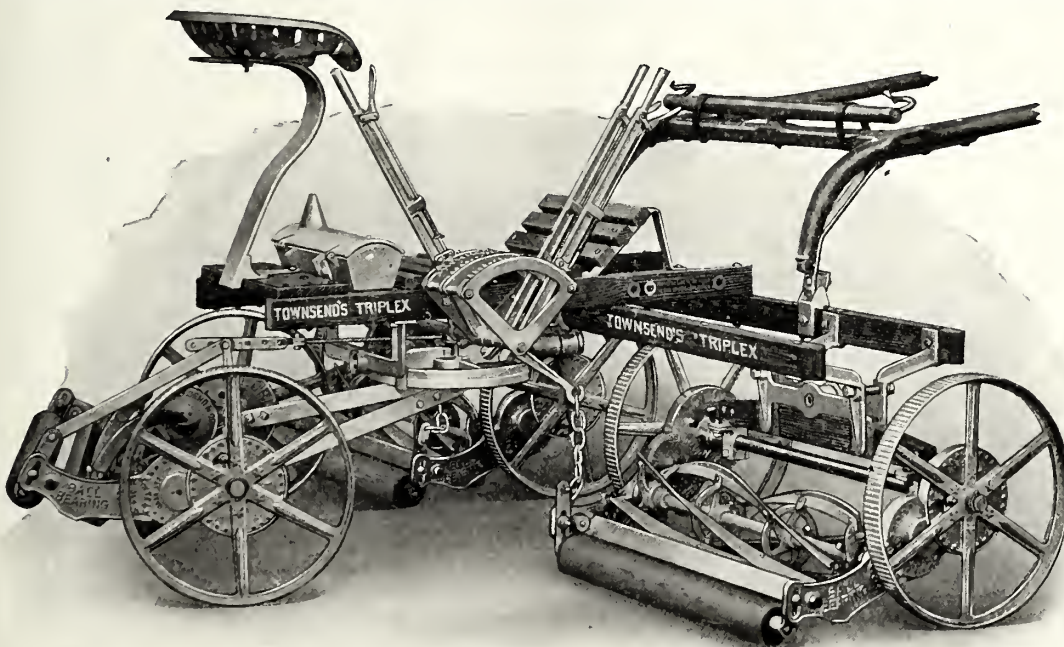
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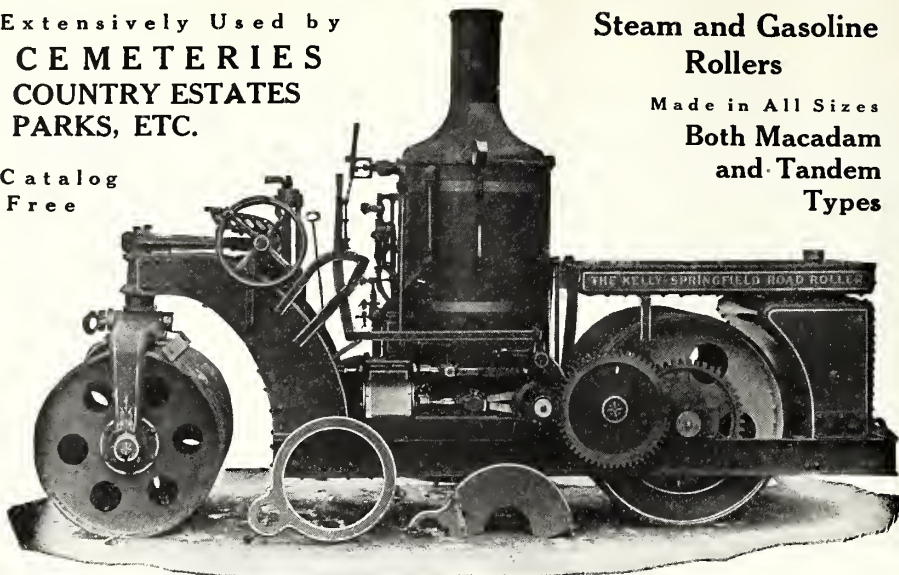
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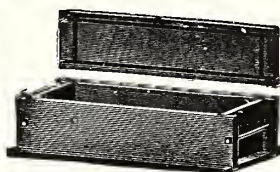
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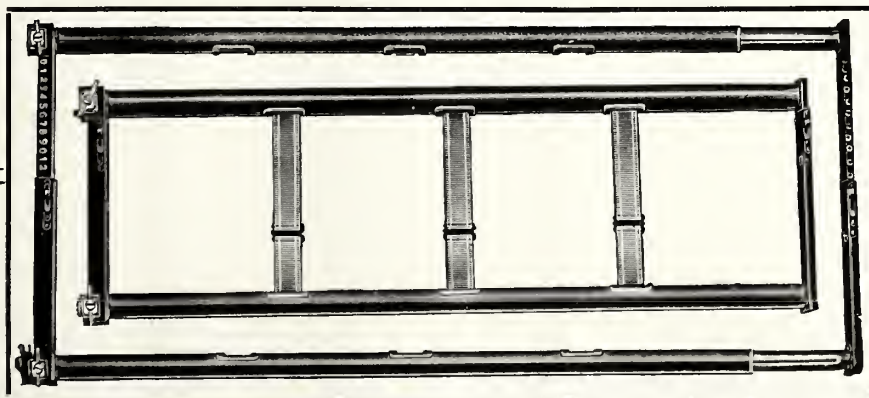
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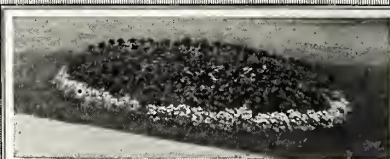
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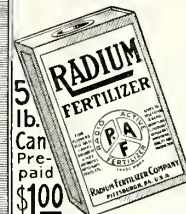
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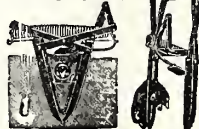
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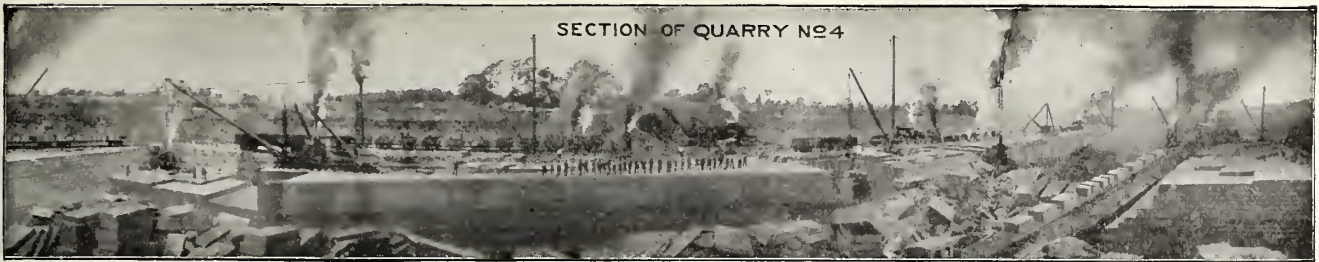
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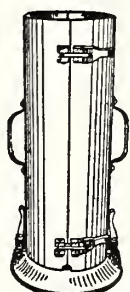
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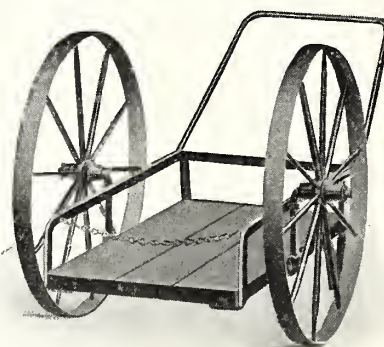
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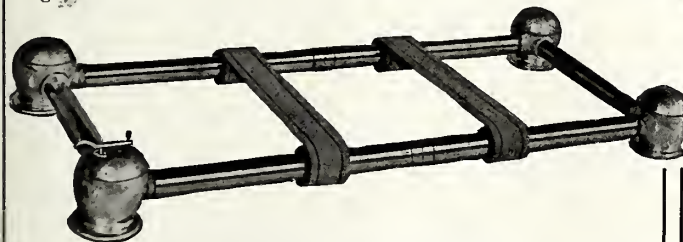
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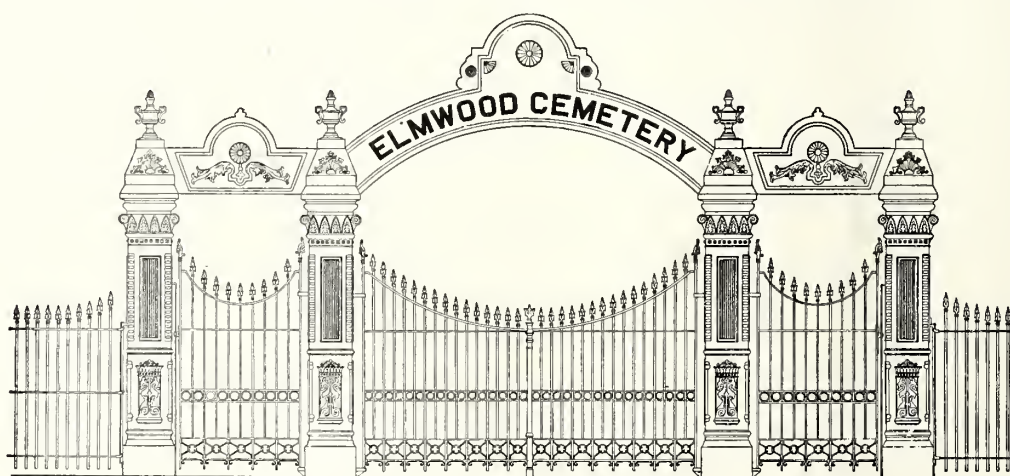
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Vol. XXV., No. 7 SEPTEMBER, 1915

SPECIAL CONVENTION REPORT ISSUE

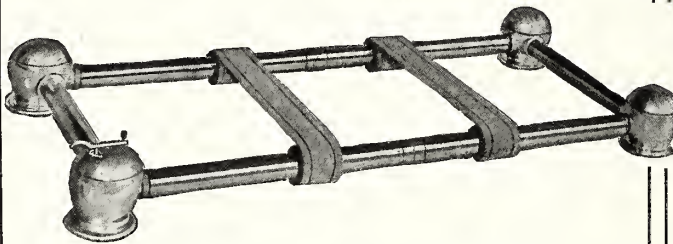
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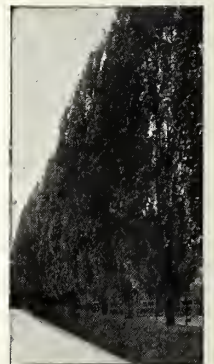
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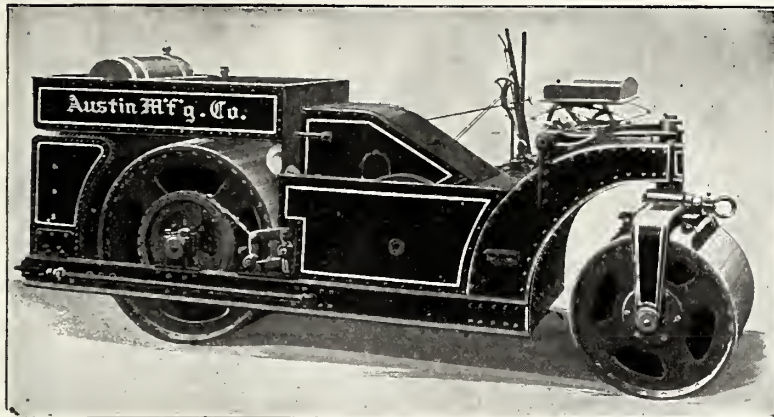
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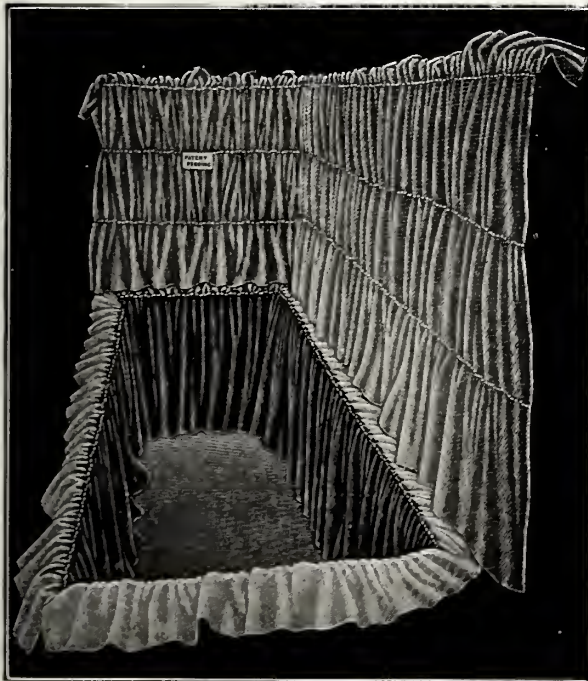
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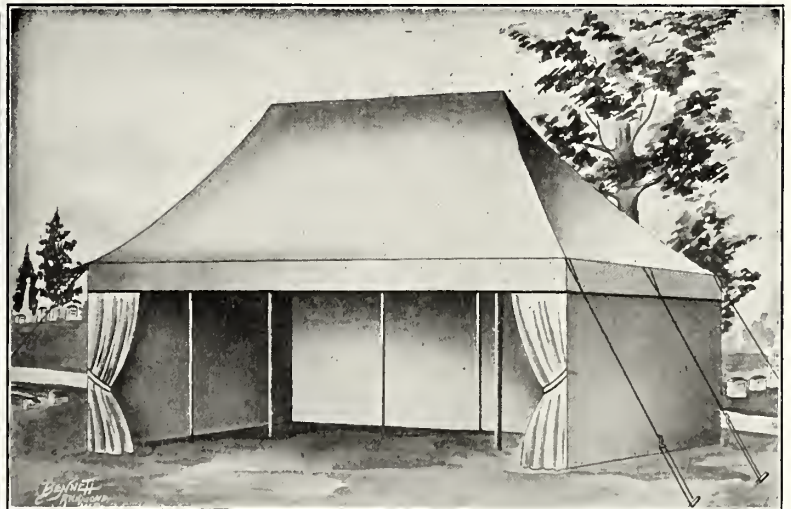
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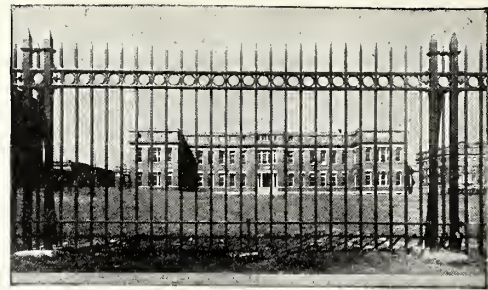
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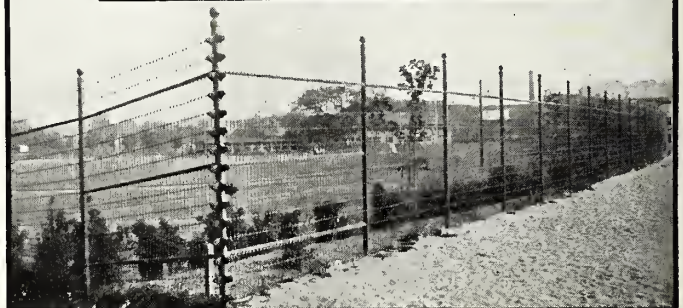
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SEPTEMBER, 1915

EDITORIAL

VOL. XXV No. 7

Broadening Social Service in Boston Parks

The most significant aspect of recent park history has been the constantly broadening development in social service work, and a most interesting experiment in this line has been tried in Boston this season. A dozen organizations of the city supported a series of free evening entertainments in parks and playgrounds during the month of July. The purpose was to show in an interesting manner the community's public and private resources for health, social welfare, civic progress and recreation. The first Boston Park Show was given on Franklin Field the evening of Monday, July 5, as a feature of the City of Boston program for the observance of Independence Day. An entertainment was then scheduled five evenings a week for the balance of the month. After this interesting series of experiments during the month of July, the committee has proved that there is a popular demand and a ready acceptance for information concerning the constructive resources of the city. The answer of this experiment is that through motion pictures, supplemented by slides with facts and suggestions, large audiences may be instructed at the same time they are entertained. The twenty Boston Park Shows that were given from the first of July up to the recent rainy season which prevented continuing the series, even if the committee had decided to continue, had audiences averaging 5,000 to 6,000 a night in several parts of the city. "Boston Park Shows are intended to be worth-while entertainments," said one of the slides, and in this spirit the programs were received. A total of probably 125,000 men, women and children attended the entertainments. A complete, well-balanced program was given each night, including music, and the program changed so that no audience saw the same show twice. Educational, instructive propaganda was not over-emphasized, but was nevertheless plainly evident. In other cities similar efforts have been solely for health propaganda, as in New York, Chicago, Providence and Fall River; or as an additional means for recreation in the parks, as in St. Louis. In Boston both purposes have been successfully combined. The St. Louis plan is now being conducted for a second year by the city through the Division of Parks and Recreation of the Department of Public Welfare, alternately with band concerts, in fourteen parks and playgrounds. The schedule started June 15 and continued to September 7. The Boston programs were made up after this manner: First, introductory stereopticon

slides stating the purpose of the shows and names of organizations concerned. Then, alternately, motion pictures and slides, such as the following: Current news weekly reel; health feature, either slides or motion picture; slides illustrating and explaining activities of B. Y. M. C. Union; civic feature reel, "Around about Boston," or travel pictures; epigram and quotation slides; temperance slides; recreation feature, motion picture, "Sports of the Nations"; slides explaining and illustrating work of Y. M. C. A., or of the S. P. C. A., or of the Milk and Baby Hygiene Association, alternating on different nights; social welfare feature in form of slides or pictures, such as the work of the Massachusetts Child Labor Committee; comedy feature, in closing, such as "Gertie," a popular black and white motion picture; and as the finale, a patriotic feature including slide showing President Wilson, "the most powerful official in the whole wide world"; then the Stars and Stripes accompanied by "Star-Spangled Banner"—and "Good-Night."

Two special programs were arranged. The first was a "Seeing Boston Night," on Boston Common, the evening of July 20. Acting Mayor George W. Coleman was present and spoke briefly. The motion pictures and slides were illustrative of Boston activities and scenes, including a visit to Governor Walsh at the State House, to Mayor Curley at City Hall, officials of the Chamber of Commerce and Massachusetts Hardware Association, members of the Pilgrim Publicity Association, etc., together with views of the Custom House Tower, scenes in the parks, aeroplane flight at Revere Beach, etc. The second special night was spoiled by rain, which also dampened any further attempt to continue the shows through the month of August, for it rained every available night without an exception from the end of July.

When the next series of Park Shows are presented to the people of Boston they will be undoubtedly still more comprehensive and much improved over the experiment just concluded. The plan for giving such free evening entertainments in parks and playgrounds has proved very well worth while. Results have been satisfactory, not only to the committee but to the audiences. They are expensive, these shows, but worth all they cost in money, time and labor. If additional financial support comes, there may be another series in the fall. At any rate, the committee expects the plan to be in operation all next summer, starting early in June and continuing into September.

Studying New York City Trees

Professor Laurie D. Cox, landscape engineer of the State College of Forestry at Syracuse, has just made an exhaustive study of the trees of New York City, and will shortly present a report to Cabot Ward, commissioner of parks, the *New York Times* states. This report will include the first comprehensive census of the trees of Manhattan and Richmond and will be the basis for future activities by which Commissioner Ward hopes to increase greatly the number of trees in the city and prevent it from becoming treeless, a condition that rapidly approaches unless drastic measures are taken. Professor Cox was employed through a fund given by John D. Rockefeller. When Mr. Ward became commissioner he found the city losing thousands of trees each year through lack of system as to planting the proper species of trees and their proper care after they were planted. Commissioner Ward gave Professor Cox a squad of department men and for three months they have been accumulating the data on

which the forester will base his report. The tree census will include the history of every tree in Manhattan and Richmond—the date of planting, conditions of soil and environment, and the life of the tree whose place it took. Professor Cox is also gathering data as to the kinds of trees suitable for various parts of the city. The depth of soil, the street traffic, the congestion and height of buildings, proximity of gas mains, pressure of vaults and conduits, and scant tree openings are some of the difficulties that exist in various zones.

Another feature of the report will be a map showing the location of the city's trees. This will be divided into zones according to conditions. Thus the down-town district, where underground and traffic conditions make the growing of trees a practical impossibility, would comprise one zone, while a district a little further removed, in which the hardest kind of tree might grow, would constitute another.

SOURCES OF INCOME FOR CEMETERIES

*An address before the A. A. C. S. Convention at Minneapolis,
by James Currie, Supt., Forest Home Cemetery, Milwaukee.*

Meditating on the subject assigned to me for this occasion, as indicated by the title of this address, and considering the primary purposes of an income for the cemetery, there came vividly to my mind many neglected or badly kept cemeteries, their condition being attributable in some instances perhaps to deficiency of knowledge and ability on the part of the management to properly conduct the business; but more likely to insufficiency of funds to provide for the proper care of the premises according to the standard established by progressive ideas and the usages of our times, which demand that the resting places of the dead shall be beautiful, or at least in a reasonable degree attractive and not offensive to our sense of propriety and feelings of respect and reverence for the departed.

Success in cemetery management is based on the same fundamental principles which govern all lines of legitimate business, requiring an intimate knowledge of affairs, an appreciation of and strict attention to requirements and a careful study of economic conditions, involving the problem of providing a sufficient revenue for the operation, maintenance and improvement of the cemetery in accordance with modern ideas, besides establishing a reserve fund for the proper care of the grounds in perpetuity, now regarded as a moral duty by the management of every well regulated cemetery.

The fact should never be overlooked that a cemetery is not the possession of the present generation alone but a heritage to posterity, which some future generation may find a grievous burden unless by wise forethought and prudent management their predecessors had in due time amply provided for future requirements.

A sufficient income being of the utmost importance, cemetery authorities or corporations, whether organized solely for burial of the dead and the mutual benefit of the cemetery and lot owners, or in part for the profits to individuals which may accrue from the business, may naturally and consistently be expected to derive all the revenue which may be necessary to successfully conduct the business from any and all legitimate sources of income the business may afford.

Local conditions suggest and determine the several sources from which an income may be anticipated and the relative proportion which each source may reasonably be expected to yield to aggregate the amount required.

Incomes for cemeteries are in general obtainable from three principal sources,

the sale of lots and graves; services to lot owners, monumental dealers, and undertakers; interest and perhaps profits on investments. Besides these there are miscellaneous sources, some of them quite important as revenue producers, although not available in all cemeteries alike.

Land available for lots, most valuable of all sources of income of the cemetery, should be wisely conserved and its price in all its relations carefully computed before offering it for sale. On this source and on the original investment the cemetery may almost wholly depend for its development and maintenance for perhaps many years. On this source, too, cemeteries in general rely for a reserve fund for the care and maintenance of the grounds in perpetuity when perhaps all other sources of revenue are exhausted; and from this source cemeteries established by individuals or corporations as a business venture, are expected to produce a substantial share of anticipated dividends.

In cemeteries established in accordance with modern philanthropic ideas with no thought of personal profit, it is obvious that the prices of lots need be no higher than is necessary to produce a due proportion of the revenue estimated to be sufficient to amply provide for the present and future needs of the cemetery.

Individual or stock companies looking for dividends, where sanctioned by legislative authority, usually fix prices according to the demand and the maximum they find or anticipate their patrons will pay, which is quite legitimate and businesslike even if it savors too much of commercialism, as many high-minded persons hold who contend that a cemetery should not be conducted for individual gain. This, however, is a matter of opinion and foreign to the purpose of my address. In general it will be found that prospective purchasers of lots are usually willing to pay any price within their means which is reasonable and consistent with the character and policy of the cemetery.

It is rare to find in any cemetery the price of lots too high. Demand, and to some extent, competition, regulate that; but in many cemeteries the mistake has been made and in many more is still being made, of selling lots so low that there is not sufficient income derived therefrom to do more, in many instances, than keep the grounds in a fairly presentable condition, but making no provision for the future. Such short-sighted policy is a reflection on the trustees of these cemeteries, who if true to their obliga-

tions to lot owners cannot ignore the sacred duty of establishing the cemetery on a sound and permanent financial basis by providing an adequate endowment.

Money received in trust for the perpetual care of individual lots embodying special features not included in the general care, is not in itself income but is productive of income, which when applied to the purposes for which it is intended, affords opportunity for profit; hence the larger these trust funds are individually or collectively the greater the revenue accruing to the cemetery. The endowment of lots may therefore be encouraged with consistency for two important reasons; first, to insure the good care of those lots in perpetuity, a source of satisfaction to lot owners and a lightening of the burden which unendowed lots will impose on the trustees in future generations; and second, to help increase the revenue available for general expenses.

Referring specifically to the various services lot owners may desire in the improvement, embellishment and maintenance of their lots, including labor and material required, which if attended to by the management of the cemetery may be productive of considerable revenue, I may briefly mention such work as grading, sodding, seeding, fertilizing and other necessary work to keep the lawn in good order, planting and care of trees, shrubs and ornamental plants; watering lots, graves, flower beds and vases; sodding, planting on graves and covering them in fall; planting and care of flower beds; filling and care of flower vases; cut flower decorations; painting vases, chairs and settees; in fine, anything on the lot requiring attention.

Services usually rendered to undertakers, either for themselves personally or through them for the benefit of their clients, include such important matters as opening, closing and trimming or decorating graves for interments, furnishing boxes for caskets, cement, slate, stone or brick vaults, the use of lowering devices and shelter tents at graves, the chapel for services, and the use of the receiving vault for temporary interment.

Trimming graves is not infrequently the privilege of undertakers, but is in general attended to exclusively by the cemetery management. Undertakers are likewise privileged in some cemeteries to supply burial vaults of any and all styles, but in other cemeteries this business is controlled by the management, not alone for the profit accruing therefrom, but also for the convenience of the

cemetery, and to insure prompt service and satisfaction to lot owners.

An important and usually profitable source of income, deserving more than casual reference, is the building of foundations for mausoleums, monuments, index stones and other structures on lots.

To facilitate this business, avoid confusion and possible complications, insure good workmanship, economy, and satisfaction to lot owners, and provide a reasonable profit to increase the income of the cemetery, it is advisable, where at all practicable, for cemetery authorities to assume the building of all foundations, in fact, insist that all such work shall be done by cemetery employes at the expense of lot owners or their agents. In some small cemeteries, where perhaps few memorials are erected, it may be deemed inexpedient for the authorities to assume the duty of building foundations; but even in such circumstances it appears to me advisable and practicable to devise a system whereby it might be advantageous to dealers and lot owners and profitable to the management if foundations were built by employes of the cemetery.

Setting markers or index stones and even corner posts in many cemeteries is left entirely to or optional with dealers, but all of this work when done exclusively by cemetery employes, is advantageous and profitable to the cemetery, and much more satisfactory to lot owners and dealers.

Erecting monuments is undertaken or assumed by the management of a few cemeteries, perhaps not primarily for the income the service affords, although that may be considerable, but for the accommodation of lot owners or dealers, or to avoid trouble sometimes arising from damage to cemetery property through the carelessness of contractors' employes. I am of the opinion, however, that this service involves more risk and liability than the average cemetery is warranted in assuming. Accidents, although perhaps remote, occasionally happen and are sometimes very costly, creating a loss, perhaps of comparatively little consequence to some cemeteries but possibly disastrous to others of more restricted means.

It is better and safer if the demand will warrant the outlay, to provide an outfit of derricks, block and tackle and all equipment necessary for the erection of monuments so as to be prepared to accommodate monument dealers, furnishing them, too, with men, if required, to assist the setter in charge of the work. In this way some revenue may be obtained on a relatively small investment, without material risk to the cemetery.

Among the miscellaneous sources of income available but not common to all

cemeteries, I will briefly mention the sale of plants, cut flowers, bouquets, emblems, floral designs, and various requisites associated with a greenhouse establishment.

It is a mooted question, which I will not attempt to settle at this time, whether or not greenhouses in the cemetery are a profitable investment. I merely mention this as an opportunity for revenue, which I am assured is quite profitable in some cemeteries, particularly where an outside business in a populous neighborhood is conducted, or where surplus stock may be disposed of to the wholesale trade.

Cleaning monumental structures on lots, involving little risk, a negligible outlay for equipment, and requiring no more skill than may readily be acquired by any intelligent workman, is a service appreciated by many lot owners, and is productive of considerable revenue and profit.

Carriage service, introduced in some cemeteries as a necessary convenience to lot owners may in some localities be profitable, but this, I fear, is a rare occurrence.

Cremation affords a profitable income in a few cemeteries, but as a business venture with a view to realizing a paying percentage directly from the investment, the establishment of a crematory in any but the leading cemeteries, in or near the larger cities, is likely to prove a disappointment. I am persuaded, however, in view of the increasing sentiment favoring cremation, that many cemeteries may, if finances will permit, profit by the installation of a crematory. With this facility a cemetery will be better prepared to accommodate patrons in the disposition of their dead according to their wishes; and the very fact of being so equipped will lend a distinction and prestige almost certain to contribute in large measure through other channels to the general success of the cemetery.

The so-called community mausoleum finds favor in a few cemeteries, likewise smaller structures for the same purpose but in size and style similar to the private vault or mausoleum. Whether or not the income usually derived from this source is sufficient to warrant the investment, I am not competent to judge. I confess I am opposed to these structures on general principles and possibly may be unduly influenced by prejudice and unable to appreciate their worth to the cemetery as a money maker.

The columbarium, temporary though it be, as a place of interment in comparison with underground burial, no matter how well it may be constructed, is in this respect less objectionable than the mausoleum by reason of greater possibilities for permanency in construction; and since the object for which it is designed is also less objectionable than

the purpose of the mausoleum, cemeteries may be justified and may find it profitable where the demand appears to warrant the outlay, in making provision to satisfy the sentiments of persons favoring this disposition of cremated ashes.

A small amount of revenue is also derived in some cemeteries from charges made for services such as fees for duplicate or transfer deeds, copies of cemetery plats and diagrams of lots. These and sundry matters of a minor nature are regarded in cemeteries in general as courtesies to be extended gratuitously.

All the sources of income I have alluded to are in every sense legitimate and any effort made by consistent business methods to promote any and all of them is undoubtedly worthy of emulation. But with your permission I wish to express my opinion regarding a practice which I regret to note is becoming more and more prevalent, a practice designed to effect an increase in revenue which in the ordinary lines of trade is regarded as progressive and commendable, but in the conduct of cemetery business is, I believe, reprehensible and subject to popular criticism and even condemnation. I refer to the system of commissions offered, perhaps I had better say, exacted, in the transaction of business in the cemetery, particularly that associated with interments.

To the average mind, deeply sensitive when stricken with grief, when sympathy and unselfish motives are especially welcomed and appreciated, the thought or knowledge that the occasion has been utilized by those depended on for faithful service to satisfy their own mercenary impulses, is very repugnant. This system, which obviously must deprive the cemetery of a part of its income or oblige lot owners and others to pay for services they have not received, is, I am persuaded, as regrettable as it is burdensome and objectionable to all self-respecting, honest cemetery authorities, to whom it would be humiliating were it known to lot owners that they are engaged in or a party to any such sordid commercial methods. No matter on what basis a cemetery is organized it is obviously good policy and may reasonably be regarded as the duty of the management to be ever mindful of the best interests of lot owners and in so doing probably promote the welfare of the cemetery. If, then, a cemetery can afford commissions or discounts surely it were better that an equivalent be allowed to lot owners in the adoption of reasonable prices for all services rendered, abandoning or refusing to adopt a system which grows ever more avaricious and burdensome and sure sooner or later to reflect discredit on any cemetery.

For any accommodation and for the faithful performance of all services, lot owners, and others are generally willing to pay the prices deemed proper by cemetery authorities. In this connection I believe I am justified in asserting that in most cemeteries prices for the services I have named, are in many instances, without particularizing, too low. Judging by my own experience the patrons of cemeteries by reason of example, observation and the higher standard to which they have been educated, are becoming more and more particular and fastidious, expecting and even insisting on a quality of service such as a few years ago would have been considered by them superfluous and extravagant. In many instances, to my knowledge, prices so affected have not been advanced, or not to an extent commensurate with the cost of the services rendered. It is not uncommon to find the management of cemeteries unmindful of incidental expenses or at least not careful to include all overhead charges and a reasonable percentage of profit in estimating the cost of services. The result is frequently a net loss on certain services, whereas it should be a substantial gain. I contend that for every service performed for individuals in the cemetery, except acts of courtesy easily differentiated, there should be a corresponding charge and that each and every charge should be on an equitable but profitable basis. If this plan was carefully systematized and adopted in every cemetery I venture to say that the increase in revenue in some of them would be surprising. Incomes of cemeteries may be much affected not alone by the charges made for services but by the restrictions adopted and privileges accorded to lot owners and others who desire work done in the cemetery.

Conditions necessarily vary in different cemeteries. A certain source of revenue yielding a comfortable profit in one place may be negligible as to profit or even a losing proposition in another; consequently cemetery authorities are apt to discriminate, reserving for themselves certain services and leaving the less profitable work to the option of lot owners. But it is surely the duty, and I believe it is the privilege, of the authorities of every cemetery to utilize every legitimate source of income the cemetery offers to place it on a sound financial basis.

The cemetery by reason of its peculiar purposes and the mutual interests of all concerned in its welfare is essentially different from any other line of business and should not, where control is possible, be subjected to the ordinary hazards of trade, such as the open market, competition and cutting of prices, which curtail opportunities, tend to hamper success, and operate against the best interests of lot owners. A dependable revenue is essential

to the success of the cemetery, and since little, if any, income is obtainable from outside sources, therefore every available opportunity of income the cemetery affords should be systematically conserved and appropriated by the management.

Is it fair or reasonable that outside gardeners and other workmen be permitted to operate in the cemetery and be accorded the privilege of conducting business in competition with the management in what may reasonably be considered exclusive territory developed at large expense by the trustees of the cemetery, to which these outsiders have contributed absolutely nothing? Or is it doing justice to lot owners in general who are deeply interested in and liberally contribute to the beauty of the cemetery to allow a few of their number to obtrude their individual, diversified and often crude notions and amateurish workmanship in the care of their lots, disturbing the unity of ideas and harmony of purpose in the improvement and embellishment of the premises? Such freedom to individuals, which, to be consistent and equitable, must be permitted to all, is apt to be adverse to good management and prejudicial to the success of the cemetery.

Observing and discriminating persons cannot fail to notice and must concede that work in the care of lots done by experienced employees of the cemetery is usually distinguished by neatness, uniformity and conformity with the general plan of the grounds.

The question may naturally arise in the minds of some cemetery officials who have been accustomed to lot owners exercising their own pleasure in doing work or having it done by outsiders on their own lots, whether it is proper and practicable to prohibit this practice and insist that all work shall be done by cemetery employees.

Under legislative authority, slightly modified in the different states, cemetery boards or corporations may sell lots on such terms and subject to such restrictions as they may prescribe for the improvement, embellishment and maintenance of the grounds and administration of the cemetery in general. Manifestly it is the prerogative of such boards or corporations to determine the plan and policy of the cemetery, the privileges of lot owners and the restrictions which must be imposed to properly regulate all matters pertaining to the management of the institution.

If it is advantageous and consistent for the management of a cemetery to control—in fact, monopolize—any work or business in the cemetery, might it not be equally proper and on the whole more satisfactory to all concerned if all services were so controlled?

If lot owners and other patrons of a cemetery recognize and approve of a system of cemetery control or monopoly of certain services designed for the general welfare, is it not logical to suppose that

they would also approve of a more extended application of the same meritorious system?

Irrespective, however, of the privileges which lot owners may enjoy in the care and embellishment of their lots or in the erection of monuments and other structures permissible in the cemetery, and irrespective of the legal rights which cemetery authorities may possess to prohibit lot owners from doing any work of whatever nature on their lots except by special permission; in brief, no matter as to the legal status of either party, it would unquestionably in practically every instance contribute in many respects immeasurably to the material benefit of both the lot owner and the cemetery if all services required were attended to by skilled cemetery employees under the direct supervision of the management. The lot owner would be spared anxiety respecting the condition and care of his lot and freed from the trouble and time required in doing any necessary work himself or in finding someone to do it for him, for whose conduct in the cemetery he must be held responsible, and the management would be given increased opportunity to augment the income of the cemetery. The introduction of restrictive measures in cemeteries where lot owners and their agents have had practically a free hand, usually requires the exercise of tact and diplomacy to amicably attain the end in view. It may be advantageous and expedient to adopt a differential plan, permitting lot owners to do certain kinds of work, as, for example, the embellishment of graves to give expression to their sentiments and to satisfy a perfectly natural desire to do some little things on their lots with their own hands, but restraining them and all others from doing the more important kinds of work, which may only be advantageously performed by employees of the cemetery.

Regulations affecting the revenue of the cemetery should be comprehensive and effective, so as to consistently conserve all available sources of income. They should be equitable and not arbitrary, firm, yet liberal, and subject to exception and modification to meet varying conditions; above all, they should be characterized by fairness and justice, evincing a disposition on the part of the management to consider primarily the best interests of lot owners, while endeavoring to establish the cemetery on a sound financial basis. Lot owners and other patrons of the cemetery, quick to discern and approve the motive inspiring the management to attain success, and fully appreciating the benefits to be derived from the fair-minded and progressive policy I have endeavored to outline, may be confidently relied upon to cooperate in the development of a beautiful, well-organized, successful and firmly established cemetery.

PARK SUPERINTENDENTS' CONVENTION AND TOUR

The American Association of Park Superintendents held one of the most interesting and profitable conventions in its history, a meeting that is probably unique in the records of the organization, as it included a cross-continent tour of park inspection and field work extending from New York to San Francisco.

The convention proper was held in San Francisco August 18 to 21, but the real beginning of the park inspection and the informal conferences that form one of the most valuable features of the association work was in Chicago, where the Eastern party arrived August 8, and spent the entire day in an automobile tour of the Chicago parks as the guests of the three local park boards.

They were joined here by the Chicago and Central West members and proceeded to Minneapolis, August 9, where all were entertained by the Board of Park Commissioners, and made a tour of inspection of the park system under the guidance of Superintendent Theodore Wirth and his able assistants. A railroad wreck near Snowden, Mont., delayed the party twenty-one hours, August 10. They reached Glacier National Park August 12 and spent the day there in this wonderful national park, leaving at night for Spokane and arriving there on the morning of the 13th and spending one day. Here they were royally entertained by the Board of Park Commissioners and left on Friday, August 13, for Seattle, where they arrived next morning, and were the guests of the park commissioners up to 3 o'clock p. m. The steamer for Tacoma was then boarded, the balance of the day being spent there in charge of the parks' commissioners. At midnight the party left for Portland, Ore., where on Sunday morning an automobile ride through the parks and to Mt. Tabor was taken. Later they were the guests of the city at a dinner given at the Chamber of Commerce.

There was an attendance of one hundred park executives from the larger cities of the United States and Canada. The convention program provided one day of papers and discussions and two days of inspection tours of recreation facilities of San Francisco, Oakland and Berkeley, as well as the landscape features of the Panama-Pacific Exposition and a number of private estates adjacent to San Francisco. Practically the entire convention party toured the entire Pacific Coast, inspecting the recreation features at Spokane, Seattle, Tacoma, Portland, Los Angeles and San Diego, the Eastern party also stopping at Salt Lake City, Pueblo, Colorado Springs, Denver, Kansas City, St. Louis, Minneapolis and Chicago.

At the opening session Wm. H. Metson, president of the San Francisco Park Board, delivered an address of welcome and outlined in a very interesting way the progress of park work in San Francisco,



lauding the wonderful achievement of Superintendent John McLaren in the creation and development of Golden Gate Park.

Vice-President H. W. Merkel responded on behalf of the association and described the trip across the continent by the Eastern delegation, each city of the West and of the Pacific Coast being a revelation to the party, and San Francisco, with its exposition and wonderful Golden Gate Park, being the climax.

The annual report of Secretary-Treasurer Roland Cotterill showed that during the year the indebtedness of the association had been cleaned up, there was a small balance in the treasury and a membership in good standing of 191.

Twenty-four new members were admitted to the association, a larger number than at any previous session, the applicants being as follows:

Henry W. Bush, superintendent of parks, Detroit, Mich.

Chas. W. Davis, superintendent of parks, Memphis, Tenn.

Wm. R. Reader, superintendent of parks, Calgary, Canada.

Frank Shearer, superintendent of parks, Los Angeles, Cal.

J. G. Morley, superintendent of parks, San Diego, Cal.

W. C. Claybaugh, superintendent of parks, Fresno, Cal.

J. M. Paige, superintendent of parks, Pomona, Cal.

David F. Roy, superintendent of parks, New Brunswick, N. J.

J. O. Conville, superintendent of parks, Portland, Ore.

W. R. Hancock, superintendent of parks, Fergus Falls, Minn.

Albert Bieschke, superintendent of parks, Noroton, Conn.

John D. McEwen, superintendent of parks, Queensboro, N. Y.

H. H. Elbers, director Botanical Gardens, Buffalo, N. Y.

Jacob Umlauff, head florist, Seattle, Wash.

H. L. McGillis, park engineer, Seattle, Wash.

W. R. Pearson, superintendent Cromwell Gardens, Cromwell, Conn.

William Allen, secretary Park Commission, New Orleans, La.

E. C. Lyle, landscape engineer, Bellingham, Wash.

C. De Grelle, landscape architect, Montreal, Canada.

James F. Dawson, landscape architect, Brookline, Mass.

Donald McLaren, landscape architect, San Francisco, Cal.

Daniel MacRorie, landscape architect, San Francisco, Cal.

Ralph T. Stevens, professor of L. G., Berkeley, Cal.

W. T. Rementer, county forester, Los Angeles, Cal.

During the course of the day and evening the following papers were read and were followed by interesting discussions. These papers will be published in the official organ and will also be included in the printed proceedings of the convention:

"Are Charges for Certain Park Services Justified?" by Theodore Wirth, superintendent of parks, Minneapolis, Minn.

"The Drift of Modern Recreation," by E. B. DeGroot, director of physical education, San Francisco, Cal.

L. P. Jensen, of St. Louis, made an interesting and suggestive address on "Public Parks as Preservers of Our Native Plants." This paper is printed in full on another page of this issue.

Stereopticon lectures were delivered by Samuel Hill, president of the Pacific Highway Association, his subject being "Good Roads," and by J. H. Prost, city forester of Chicago, on "Civic Beautification."

Mr. Prost, city forester of Chicago, presented a stereopticon lecture showing the wonderful work accomplished with trees in Chicago. A summary of his address on "Civic Beautification" follows herewith:

CIVIC BEAUTIFICATION.

How Park Superintendents and City Foresters Can Help to Attain This End.

By J. H. Prost.

The terms "Civic Beautification" or "The City Beautiful" which have at times been greatly abused, of late often misused and in some cases discarded altogether for the terms "The City Practical" or "Civic Betterment" still are, I believe, justifiable and should be championed by every park superintendent and city forester.

We never can create too much sentiment and influence in favor of plant ornamentation for our cities. The more beautiful the residence streets, public grounds, school yards and home yards of a community are made, the happier, more patriotic, more industrious and more successful its citizens will be.

This association has always used its influence in promoting these features of Civic Beautification. But, have we done all we can? And in attempting a humble answer to this question I am trying to justify my appearance before this Association with the following talk and illustrations.

The planting of trees upon all of our residence streets, the landscape planting of trees, shrubs and flowers upon all public grounds such as pumping stations, police and fire station grounds, ward

yards, the beautification of our school yards and playgrounds by the planting of trees, shrubs, and flowers and the ornamentation of the home yards, both front and back yards, are the fundamentals, the essentials, I believe, of Civic Beautification and Civic Betterment.

Those citizens having beautiful yards and gardens, living along properly planted streets, whose children attend schools where gardens may be seen and studied, are the citizens who visit and appreciate our parks most, they are the people who come forward and support our hard issues for parks, playgrounds, schools and plans for civic development.

If this is true, then the park superintendents and city foresters ought to do all they can to encourage the proper development of these fundamentals of civic beautification.

My experience has thoroughly convinced me that the great majority of our citizens are eager to

neighborhood clubs and various civic organizations of which we have about 300 in Chicago.

These are simple talks arranged so as to suggest the above mentioned features of civic beautification.

Let us begin with Arbor Day, and on that day teach our children the use and value of the tree in our national and city life.

The children of Chicago have planted over 1,000,000 seedling trees on Arbor Day during the last four years.

In 1912 they planted about 285,000 catalpa trees.

In 1913 they planted about 300,000 elm trees.

In 1914 they planted about 225,000 mulberry trees.

In 1915 they planted about 200,000 white birch trees.

These were one year old seedlings furnished and delivered to the child at its school for a cost of one cent each.

Children's gardens furnish interesting study and

evening, Saturdays and Sundays and accumulate in formation, suggestions, and inspiration on how to beautify their own home grounds.

Street trees are indispensable to the "City Beautiful." Lack of municipal control and planting regulations have imposed upon our cities very poor tree planting. The varieties planted in largest numbers are poplars, willows, cottonwoods, soft maples and box elders, and these are not desirable trees for permanency, beauty, shade, cleanliness and immunity from insect and fungus pests.

The American elm, Norway maple, honey locust, hockberries, white ash, sycamore, red and pin oaks, and lindens are the most reliable trees and give the best results.

Lack of municipal control has left stumps, dead, dying and unsightly trees standing where they meet the eye of every citizen and visitor; this condition can only be remedied where tree ordinances are established.



MEMBERS OF AMERICAN ASSOCIATION OF PARK SUPERINTENDENTS AT SAN FRANCISCO, AUGUST 18, 1915.

Back Row, left to right: Wm. Allen, F. Shearer, J. G. Morley, J. H. Prost; Middle Row, left to right: J. M. Paige, John Meisenbacher, W. C. Claybaugh, Alex Fisk, F. L. Mulford, Emil Barnadet, John Berry, Eugene Goebel, George H. Hill, E. T. Mische, Geo. F. Otto, L. P. Jensen, E. C. Lyle, J. Gibson, D. Farquharson; Front Row, left to right: John D. McEwen, George Champion, Wm. R. Reader, Chas. Haible, J. W. Thompson, R. W. Cotterill, Herman W. Merkel, Carl U. Fohn, C. B. Wolf, John McLaren, Fred C. Green, Alex Stewart, John F. Walsh, Walter Wright, E. P. Griffin.

beautify their home grounds but lack the knowledge of how to go about it. I find that our school boards and municipal authorities want to have these public grounds properly developed and beautified, but they lack the knowledge and necessary inspiration to go ahead and do the work properly. Our past school boards in Chicago thought it cheaper and better to pave all school yards with cinders, brick, and cement, leaving no space for plant ornamentation. But we know that the expense of thus treating a school yard is much greater than the cost of improving a school yard with a sand surface upon a clay foundation or grass surface, adding trees, shrubs and flowers for ornamentation.

During the past four years a number of the ward superintendents and superintendents of pumping stations have asked for advice and suggestions as to how they could best beautify the ground under their supervision, and in every case we have prepared landscape designs and planting plans, which have been carried out as far as appropriations would permit.

Recognizing the lack of knowledge and information along these lines, but also the eagerness with which the same is sought by the public when distributed free and semi-officially, I have prepared two circulars for free distribution. The first circular contains such general information about trees, lawns, and insects as is sought after by citizens and improvement associations who are public spirited enough to help beautify their community by planting and caring for the trees and lawns in the parkways.

Of these the special park commission have distributed about 50,000 and they are still sought after at the rate of about fifty per day.

The second circular contains suggestions, planting plans and instructions on how to beautify the home yard. This circular has been published by several real estate firms, by seed stores and by the special park commission. In every case, they were distributed free of charge for the purpose of helping citizens to help themselves in making gardens of their front and back yards.

These circulars have been supplemented by illustrated talks given before improvement associations,

play for the child. To promote the development of these gardens I have furnished plans, planting schedules, rules, regulations and merit-marking systems to garden clubs, and the results of this work have been very interesting.

During the past season all of our large park commissioners have given up spaces for children's gardens and have furnished technical supervision.

The greatest influence for garden making and civic beautification is developed where the school grounds are properly landscaped. Such school yards inspire the residents to beautify their own home yards, impress the children who daily attend the school and afford excellent opportunities for the study of plants and garden making.

In making a landscape design for a public school yard I would provide for shade trees to be planted in the parkway surrounding the school, provide for an irregular border of shrubbery planting just inside of the sidewalk to contain a harmonious mixture of the varieties that thrive best in the community and give the most beautiful effects, this shrubbery planting to enclose the playground and the school garden, where the children can do some sort of garden work while attending the school.

School yards beautified in this way influence the residents living near and adjacent thereto and inspire the public to beautify their own front yards. Children attending these schools are constantly impressed by the beauty of these grounds, they study the plants, practice garden making and this training and experience make a lasting impression that will ultimately result in more gardens and more beautiful homes.

Factory gardening is another influential factor in civic beautification. While acting as judge for the Tribune Garden Contest some years ago, I found that the garden idea among the residents near and around the Sears, Roebuck & Company factory had been more universally developed and that the individual gardens were generally more beautiful than the gardens visited in any other part of the city. The incentive for all this was provided by the elaborate and artistic gardens developed by the Sears, Roebuck & Company in front of their factory. Here the employees and citizens of the surrounding territory wander during the noon hours,

The destructive elements which enter into the wholesale killing of our trees, should be thoroughly investigated, persistently attacked, systematically remedied by established forestry departments, and where forestry departments are established but lack the necessary funds with which to do the actual work, much can be accomplished by giving information, advice and suggestions through lectures, circulars and the public press.

J. G. Morley, superintendent of parks of San Diego, presented stereopticon views of the Panama-California Exposition at San Diego.

Before the close of the business session the following officers were elected: Emil T. Mische, Portland, Ore., president; J. W. Thompson, Seattle, Wash.; J. F. Walsh, New York; Alex. Stuart, Ottawa, Can.; E. P. Griffin, East St. Louis, Ill.; L. P. Jensen, St. Louis, Mo.; E. V. Goebel, Grand Rapids, Mich., vice-presidents; R. W. Cotterill, Seattle, Wash., secretary-treasurer.

Proposed amendments to the by-laws were given considerable attention, the following being the substance of changes made:

Specific classification of membership and defining qualifications along new lines.

Senior Membership: Persons of five years' practical experience as park superintendent, assistant engineer, architect, forester or other executive.

Junior Members: Same as senior members, except having had less than five years' practical experience.

Associate Members: Park commissioners or secretaries, landscape architects, foresters or other persons identified with horticulture or arboriculture.

Sustaining Members: Park commissions or other governing bodies or individuals who may contribute to the support of the association at \$10 per year, having no vote, but being entitled to the information service and publications of the association.

The president and secretary were authorized to enroll sustaining members at any time, all other applications to be submitted at the annual convention.

Power to set the date for holding the annual convention was vested in the Executive Committee.

Senior members, only to be eligible to hold office, but junior members and associate members may serve on committees, vote on all matters and participate in conventions.

Provision made permitting nominations for office on the floor of the convention in addition to names submitted by nominating committee.

Provision for suspension or expulsion of members for unprofessional conduct or conduct unbecoming a member.

Fixing admission fee for new members at \$10, which shall also cover first year's dues.

Invitations for the 1916 convention were received from the following cities: Cincinnati, Columbus, Buffalo, Boston, St. Louis, Memphis and New Orleans, the last three named being accompanied by urgent

invitations from the park authorities holding membership in the association.

The Executive Committee recommended the selection of New Orleans, and it was so voted, the understanding being that the convention will be held during the last week of September or the first week of October.

The two days of sightseeing and inspection tours were spent most profitably.

Thursday, August 19, the party crossed San Francisco Bay and became the guests of the Board of Park Directors of Oakland, luncheon being served at Mosswood Park, followed by an auto tour of Oakland and Berkeley.

Friday, the 20th, an all-day auto tour was made of San Francisco Peninsula, luncheon being served at Spring Valley.

Practically the entire party remained in San Francisco until Tuesday, the 24th, visiting the Panama-Pacific Exposition, then proceeding south to Los Angeles and San Diego, where a special program of entertainment was provided by the local park authorities.

John McLaren, of San Francisco, was honored by the association in the election to the office of honorary president, in recognition of his splendid work in the San Francisco park system and in the landscape work of the exposition grounds.

Following were among those present at the convention:

Berry, John, Bellingham, Wash.

Boehler, Oscar W., Hoboken, N. J.

Buschke, A., Noroton, Conn.

Bush, Henry W., wife and daughter, Detroit, Mich.

Champion, Geo., Winnipeg, Canada.

Cotterill, R. W., Seattle, Wash.

Ellis, Daniel H., Saginaw, Mich.

Fohn, Carl W., Colorado Springs, Colo.

Forbes, Jos. C., New Bedford, Mass.

Goebel, Eugene V., Grand Rapids, Mich.

Green, Fred C., Providence, R. I.

Griffin, Emmet R., East St. Louis, Ill.

Haible, Chas., Newburgh, N. Y.

Hill, Geo. D., Tacoma, Wash.

Jensen, L. P., St. Louis, Mo.

Karlson, O. W., Riverdale, N. Y. City.

Keith, Miss Una, Bridgeport, Conn.

Lyle, Mr. and Mrs. E. C., Bellingham, Wash.

McEwen, John D., and wife, Queens, N. Y. City.

Meisenbacher, John, Tulsa, Okla.

Merkel, Herman W., Zoological Park, N. Y. City.

Mische, Emil T., Portland, Ore.

Pierson, Wallace R., Cromwell, Conn.

Prost, J. H., Chicago, Ill.

Reader, Wm. R., Calgary, Canada.

Roy, David A., and wife, Marion, Mass.

Schomberger, John, Madison, N. J.

Stuart, Alexander, and daughter, Ottawa, Canada.

Thompson, J. W., Seattle, Wash.

Walsh, John J., Borough of Bronx, N. Y. City.

Williamson, Robert, Greenwich, Conn.

Wirth, Theo., and wife, Minneapolis, Minn.

Wolf, Conrad B., Hibbing, Minn.

Wright, Walter, Chicago, Ill.

CREMATION ASSOCIATION IN CONVENTION

The Cremation Association of America held an interesting and well-attended meeting at Buffalo, August 26 and 27.

At the first session, after hearing an address of welcome by Mayor Fuhrmann, President Dr. Hugo Erichsen, of Detroit, gave his annual address. He noted that the nucleus of cremation literature in the John Crerar Library at Chicago has grown from 17 titles to 161, and recommended an appropriation of \$20 to the book fund and the appointment of a book committee. References were made to the new booklet on "Religion and Cremation" and the Lange-Davis medal competition. The president recommended a revision of that part of the ritual of fraternal societies which pertains to the last rites. He also suggested an effective and cheaper method of propaganda by means of printed postal cards and then commented extensively upon the communication he had received from the superintendent of the Gardner-Earle Crematory, Troy, N. Y., which was given in full. He scored the medical press for not paying more attention to cremation and drew its attention to the *British Medical Journal*, which has been an advocate of the reform for many years. Another practical suggestion that he made was that of the establishment of a propa-

ganda fund by means of legacies of 1 per cent of the estates of deceased members.

In the absence of the author, S. Frank Balcom, of Indianapolis, his paper on "The Ascendant Influence Now Making for Cremation" was read by the secretary. Mr. Balcom briefly reviewed the history of cremation in the United States, commented upon the statistics published last year, and advocated the establishment of crematoria at Memphis, New Orleans, Mobile and Jacksonville.

At 2 p. m. the members boarded the private car "Ondiara," which transported them to Niagara Falls and thence to Lewiston, via the celebrated Gorge Route, whence the return trip to Niagara Falls was made on the Canadian shore. At the conclusion of the afternoon's outing the members of the association were the guests of the Buffalo Cremation Co., Ltd., at the Cataract Hotel, which overlooks the Falls.

The first regular business meeting of the convention was held Friday morning, August 27, at 9 a. m. Under the head of resolutions a very important resolution was offered that indorsed the petition of Dr. Stefan Ulbrich, a Catholic physician of Reichenberg, Austria, who has memorialized the congregation of the inquisition at

Rome to abrogate the decrees of that body forbidding the incineration of Catholics under certain conditions. A copy of this resolution will be sent to the Most Rev. Archbishop John Bonzano, Apostolic Delegate at Washington. The appointment of a book committee and a committee on the revision of the rituals of fraternal societies followed.

The address on "The Planting and Care of Small Crematory Grounds," by J. Franklin Meehan, is printed on another page of this issue. R. C. Schwarz presented a paper on "The Use of the Pyrometer for the Regulation of Crematory Furnaces."

The afternoon session opened with an address on "How to Conduct a Cremation Funeral," by Frank Bates Flanner, of Indianapolis. W. Ormiston Roy, of the Crematorium Ltd., Montreal, gave a history of the progress of cremation in Canada. Thereupon the following were elected officers for the ensuing year: Hugo Erichsen, president; E. P. Lamson, treasurer, and A. T. Roever, secretary.

The committee on the next place of meeting reported in favor of Cincinnati and suggested September, 1916, as a suitable date.

PARKS AS PRESERVERS OF NATIVE PLANTS

Address before the San Francisco Convention of American Association of Park Superintendents by L. P. Jensen, of St. Louis.

In the making of parks no material is of greater importance than plants. Even in parks, whose space is utilized for playgrounds, some trees and shrubs are essential, the trees for the purpose of providing shade and the shrubs for the relief of some of the harsh lines, which are always essentially associated with this form of a park, and for boundary plantations. Of plant material, that native to the region in which the park is located is, of course, indispensable and of the greatest importance. While we should, by all means, utilize the many splendid plants introduced from other countries, the native species should, in the main, predominate, because of their permanence and dependability. This applies particularly to our larger parks and reservations, those which are of a rural character and whose chief function is restfulness and repose, rather than exercises of a more or less strenuous nature. In such parks, introduced species of plants are very apt to appear out of place, unless unusual care and forethought is employed in their selection, whereas our native plants fit harmoniously into the surroundings.

That many of our beautiful and interesting native plants, particularly those inhabiting woodlands and those which for some natural reason, are limited in their power of perpetuation, are becoming rare, where a few years ago they could be found in abundance, every one knows, who has paid some attention to plant study outside the laboratory.

The principal reasons for the destruction and consequent disappearance of native plants are:

1. The entire cutting out of woodlands for timber, in the wasteful American way, and for the making of land for the growing of crops.
2. The destruction of undergrowth in woodlands for the making of pasture for stock.
3. The destruction of undergrowth for no other purpose than that of a false idea of tidiness.
4. The wanton destruction of woody flowering plants by persons gathering flowers.
5. The pulling up of entire plants when gathering flowers.
6. The removal of plants from their native habitat, for the purpose of transplanting, by persons who have no conception of their governing requirements; and
7. Last, but not least, the lack of popular education on the subject of plant preservation and protection.

I will take a few moments for a short detailed consideration of the above mentioned causes of plant extermination.

The destruction of plants caused by

lumbermen, whose sole purpose is the making of money, irrespective of other considerations, is so well known that it hardly needs mention.

The elimination of wooded areas for the growing of agricultural crops must necessarily increase in a ratio corresponding to the increase of population of this country and the deficiency of such food material abroad.

Pasturing of woodland, particularly if given over to sheep and goats, exterminates practically all undergrowth of shrubs and herbs, and prevents the perpetuation of existing arboreal vegetation.

The first act of most persons coming into possession of a parcel of natural woodland is to *improve* it, by cleaning out all the undergrowth of shrubs and herbs. This practice is so very common that anyone who happens to have the contrary view on the matter is looked upon by his neighbors as somewhat irrational.

I have personal knowledge of many a place, whose charm consisted of its native growth of redbud, flowering dogwood, crabapple, hawthorn, native roses, varieties of viburnums, sumack, bittersweet, native grapes, intermingled with asters, golden rods, purple cone flower, butterfly weed and other attractive and desirable native plants, which have been changed, with an idea of improvement, by completely destroying these natives and replacing them with a few beds of annual flowering plants.

I have one particular instance in mind, where I had been called upon to work out a design which would adapt a ten-acre parcel of natural woodland to the requirements of a country home for a well-known St. Louis physician, who is a great lover of botany.

This parcel of land is located on the bluffs overlooking the Mississippi River, over which some splendid views were secured, simply by the removal of a few branches. By retaining most of the native growth of plants, and by careful selection of additional planting material, the result has been most pleasing and satisfactory.

One of his neighbors, who had employed the usual clearing up process in the development of his place, thereby utterly destroying its charm, asked me what he could do to make his home grounds more attractive. To this question there seemed only one answer: Restore the greater part of that which you have destroyed. Unfortunately, it would take many years and much work to do so.

A similar stretch of native growth along a public road, over which I have occasion to pass almost daily, was a source of pleasure and satisfaction to me, and undoubtedly to many other lovers of native

plants, as it provided a continuous succession of interesting flowers and foliage throughout the season, until the owner, apparently for no other reason than lack of exercise in winter, completely destroyed every plant. This was about five years ago. Having been undisturbed since that time, the place in question is again becoming interesting, but will undoubtedly soon become the object of another winter's recreation for the owner, who insists that this work of destruction improves the appearance of his property.

I know of some parks of a rural character where native herbs and shrubs are being ruthlessly destroyed whenever they appear. This practice is fortunately becoming less common, owing in a large measure to the teaching of ours and similar organizations.

Woody plants, whose value consists principally in their great number of beautiful flowers, are often exterminated by thoughtless persons, who break the plants to pieces for the gathering of an armful of flowers, which in most cases wither and are thrown away along the roadside. They do not realize that their act creates wounds which seldom heal, but which give opportunities for the spread of diseases, which through the wound enter the tissues of the plant, resulting ultimately in its destruction.

Other plants growing in the loose and mellow leaf mold of the woods are destroyed by gatherers of flowers, who carelessly pull out the entire plant.

The popularity of nature study is responsible for the destruction of many plants, because most authors and writers on this subject neglect to call attention to the importance of plant protection.

In the vicinities of cities the woods are denuded of their former wealth of ferns and flowering herbs by persons who wish to transplant them into their gardens, but who do not realize that these plants require a soil and situation which is not often to be found or provided on a city lot or in the ordinary garden border. The result in such cases is always the ultimate death of the plant.

Not so very many years ago the closed gentian (*Gentiana Andrewsii*), the yellow ladyslipper (*Cypripedium pubescens*), the white flowering gentian (*Gentiana flavida*), the narrow-leaved gentian (*Gentiana linarioides*), the rose pink (*Sabatia angularis*), the white flowering wake-robin (*Trillium grandiflorum*), the bloodroot (*Sanguinaria Canadensis*), the liver-leaf *Hepatica triloba* and other attractive herbs of the woods were to be found in the vicinity of the city of St. Louis; today they are only to be found in remote localities, and some of them, the gentians, cypripediums, tril-

liums and hepatica, only where guarded by some plant lover who is reluctant to reveal their location for fear of the plant hunter.

It is evident from what has been said that some of our most interesting and beautiful native plants are in need of our protection, and that the matter of their protection is of sufficient importance to be considered by everyone interested in the perpetuation of the beauties of nature.

We should consider it not only a pleasure, but a duty to our descendants, to preserve and protect our native plants. Let them not find that we have preserved only illustrations and herbarium specimens, for their gratification and use.

A popular campaign of education on plant preservation is needed, and I know that many of the members of this organization are ardent and tireless workers in this field, but we need the assistance of every member.

Teachers, writers and speakers endeavoring to popularize our native plants should always call attention to their need of protection, and how and why they should be protected. Much good might be accomplished in this manner, and all of us should come forward with a helping hand in this movement of education. Here is where the superintendent of public parks and the superintendent of large private estates may be of the greatest service to the cause, by introducing these plants into his parks whenever and wherever an opportunity presents itself. He should study the habits and requirements of those plants which are becoming scarce in his locality, and find suitable places for them in the parks, thereby giving them absolute protection. He should inform the school authorities and the public about the presence of these plants in the parks, at the same time calling their attention to interesting facts concerning these plants, their beauty, scarcity in the locality, and the importance of their protection, wherever found. Then you, Mr. Superintendent, are not only preserving the plants, but also educating the public to an appreciation of our native flora.

The time is rapidly coming, if not already here, when to the numerous responsibilities of the park superintendent is to be added the great responsibility to posterity, of the preservation of our natural scenery, the protection of those mammals, birds and plants which modern civilization is gradually, but nevertheless surely, exterminating and destroying.

The following list of plants which seems to need protection, in the vicinity of St. Louis, Mo., is merely suggestive, because plants which may be nearing extinction in one locality may be abundant in another:

Trees:

Juniperus Virginica, Red Cedar;
Betula nigra, Black Birch;
Carya olivaeformis, Pecan;

Gymnocladus Canadensis, Kentucky Coffee-tree;

Juglans cineris, Butternut;
Juglans nigra, Black Walnut;
Pyrus coronarius, Western Crabapple;
Prunus Americana, Wild Plum;
Prunus serotina, Wild Black Cherry;
Crataegus, all species, over thirty of which are found in Missouri;
Cornus Floráda, Flowering Dogwood;
Amelanchier Canadensis, Shad-bush;
Viburnum prunifolium, Black Haw.

Shrubs:

Ceanothus Americana, New Jersey Tea;
Celastrus scandens, Shrubby or Climbing Bittersweet;
Cornus paniculata, Panicked Dogwood;
Coryllus Americana, Hazel;
Euonymus atropurpureus, Strawberry Bush;
Ilex decidua, Deciduous Holly;
Species of native roses;
Viburnum lentago, Sheep-berry.

Herbs:

All species of native ferns;
Acorus calamus, Calamus;
Cypripedium pubescens and *parviflorum*, Lady-slipper;
Erythronium albidum and *Americanum*, Dog-tooth Violets;
Iris hexagona and *versicolor*, Flags;
Lilium Canadense, *Philadelphicum* and *suberbum*, Lilies;

Orchis spectabile, Showy Orchid;
Smilacina racemosa, False Solomon's Seal;
Trillium Grandiflora, Large-flowered Wake-Robin;
Aquilegia Canadensis, Columbine;
Aster Novae-Angliae, New England Aster;
Gentiana Andrewsii, *flavida*, *liniaria*, *quinquefolia* and *saponaria*, Gentians;
Dodecatheon meida, Shooting Star;
Hepatica triloba and *acutiloba*, Liver-leaf;
Lobelia cardinalis, Cardinal Flower;
Physotegia Virginiana, False Dragon-head;
Sabatia angularis, Rose Pink;
Sanguinaria Canadensis, Blood-root, and
Viola pedata, Bird's-foot Violet.

Each one will be required to study his own locality, to determine which plants are becoming scarce, which are already extinct, and which are apt to become exterminated in the near future. Certain plants should be protected everywhere, f. ex., the orchid family, the members of which, owing to the peculiar form of their flowers, are adapted to fertilization by but few insects, and consequently many of these plants, not being fertilized, fail to produce seeds, which results in slow perpetuation of the specie.

RAILWAY GARDENING ASSOCIATION CONVENTION.

The Railway Gardening Association held a very successful ninth annual meeting at Detroit, August 17, 18, 19 and 20, with about thirty members present.

The meeting was held at the Hotel St. Clair. At the first session President Paul Huebner presented his annual address, from which we quote as follows:

The progress in railway gardening has been marked in all sections of the country and we have come to be a power for progress such as we hardly dared to hope for in our modest beginning. This is true not only of the Atlantic Coast, but all over the country to the far Pacific. Those of you who have visited the western roads not only in this country, but in Canada, can testify to the vast improvement in railroad gardening in recent years. I feel proud of the honor you have done me in electing me your president and it goes without saying that I have been anxious to do everything in my power to further the interests of our profession and place it on a still higher standard.

In the way of practical suggestions for appropriate action at this Convention I would call your attention to the following features of organization:

First, the permanent committees upon the several subjects under which all of our work may be grouped. It is intended that the membership in these committees be slightly changed each year, but that a broad scheme for the systematic development of each topic be followed continuously, working from the most general aspects of the subject gradually into the details and collecting all available information upon each phase of the subject as we progress, as was stated in my recent letters to chairmen of committees. In this way we should ultimately accumulate a large and orderly mass of facts of every day value to railway gardeners, especially but also to gardening people in general, and such results should warrant a distinctive recognition of our association for practical achievements.

That indeed should be the sphere or slogan of our association, achievements along lines of practical, horticultural work under a great variety of

natural conditions. In order to accomplish a respected standing for our association in horticultural circles the conscientious effort of every member to produce the best possible report upon each topic that is assigned to him is absolutely necessary. Each problem should receive thorough investigation in libraries as well as in the ground and among fellow gardeners, and the report should be a complete and concise statement of the facts of practical value thus obtained.

Second, the suggestion has been made that for our future meetings we follow the points of the compass in successive years; this is our northern meeting, let next year be our southern meeting, then an eastern and then a western meeting. Further, that the date of meeting be determined largely by the climate of the place where we will meet, later for northern situations and vice versa. Consideration should also be given, in this regard, to timing the meetings so that we shall see some feature of horticultural interest, during the meeting, that meetings shall not be fixed closer than six months from the previous meeting and that, so far as possible, the meetings shall be held during our least busy season. I should like to have a full discussion of this matter with a possible determination of our meeting places and dates for the remaining three years of this cycle.

The reports of the secretary and treasurer were presented, and a number of interesting papers were read that furnished subject for a busy session of discussion. The following officers were elected: J. A. Byrne, B. & O. R. R., Relay, Md., president; C. W. Eichling, Q. & C. R. R., New Orleans, La., and R. J. Rice, M. C. R. R., Niles, Mich., vice-presidents for the four-year term and short term to succeed J. A. Byrne; Charles E. Lowe, Penna. Co., Sewickley, Pa., secretary; J. K. Wingert, C. V. R. R., Chambersburg, Pa., treasurer. Mr. Lowe acted as secretary of the meet-

ing, in place of W. F. Hutchison, who was unable to be present. New Orleans was selected as the place for the 1916 meeting. The delegates were the guests of the local florists on an auto trip through the city park system. A steamer trip was taken up the Detroit River. Among those present were:

Paul Huebner, Philadelphia, Pa.

Charles E. Lowe, Pittsburgh, Pa.
I. K. Wingert, Chambersburg, Pa.
John Rinck, New Orleans, La.
John Gigner, Niles, Mich.
J. A. Byrne, Relay, Md.
John Foley, Philadelphia, Pa.
I. T. Worthley, Philadelphia, Pa.
W. R. Wingert, Chambersburg, Pa.
Levi W. Burdge, Lakewood, N. J.

P. Foy, Roanoke, Va.
E. Steibner, Champaign, Ill.
F. W. Vail, Dunellin, N. J.
E. Engelman, Altoona, Pa.
S. Silber, Mifflintown, Pa.
R. J. Rice, Niles, Mich.
F. Sagsworth, Ypsilanti, Mich.
N. Castic, Pittsburgh, Pa.
C. B. Little, Sewickley, Pa.

TWELVE YEARS' GROWTH of a SMALL CITY CEMETERY

Inquiries that frequently come to PARK AND CEMETERY indicate that there is a constantly increasing interest in developing modern cemeteries as business enterprises. The modern cemetery, whether operated by a stock company or an association of the lot holders, has unlimited possibilities, and those who are planning such cemeteries should understand that no such cemetery can succeed unless it is managed on the highest business principles, on the most modern principles of development, and with the interests of the lot holders always uppermost. The conditions and problems connected with the organizing of such cemeteries to best meet the needs of each individual community have seldom been systematically studied and there is especial need for the study of this aspect of the cemetery business as applied to towns and small cities.

It cannot be too strongly emphasized that the selection of the land and the planning and platting of the ground should be studied by cemetery landscape architects of long experience and the grounds developed and managed by a trained cemetery executive. In no other way can a privately owned cemetery be made a success. The development of a cemetery is a highly technical business enterprise and one that demands a high type of expert knowledge, experience and executive ability.

The study of the history of every successful cemetery over a period of years

will invariably contribute something to the sum of knowledge and practice in cemetery affairs. The review of twelve years of development in Belmont Park Cemetery, Youngstown, O., is an interesting study in what can be accomplished by steady and conservative growth and careful management.

With the demands of a rapidly growing population in mind the projectors of Belmont Park Cemetery, after a careful survey and examination of all the available sites in the vicinity of Youngstown, selected a site that is beautifully rolling, with lagoons, lily ponds, stately trees and all requisites for the development of an ideal cemetery.

The buildings and improvements in Belmont Park Cemetery have been made with a view of permanence and convenience. Deep wells have been sunk and a complete water system installed; a sewer and drainage system was devised and carried out in a thorough manner, through which all surface water is carried off, thus preventing water-cuts, or washouts, and also insuring dry places for sepulture even in the wettest season. Artificial lakes have been formed, stocked with water lilies of various varieties and colors, and the adjacent grounds planted with shrubs and flowers, thereby adding greatly to the picturesque and park-like appearance of the cemetery, and breaking the monotony or stiffness so often displayed in the older

cemeteries. The avenues, drives and walks have been improved to render them permanent and lasting in every respect.

*Belmont Park is no longer a new cemetery, and the results of its careful development are now readily apparent. It was established in August, 1903, and since then more than 2,100 burials have been held. The cemetery is half a mile north of the city limits, just far enough to be away from the smoke and activity of the city. A substantial brick pavement, as good as there is anywhere in the city, leads up to the gate, so that walking is not difficult, and a motor car runs from the end of the car line to the cemetery on Saturday and Sunday afternoons. Frequently on Sunday afternoons there are three or four hundred visitors.

This year an iron fence, with pickets three-quarters of an inch thick and six feet high, has been erected along Belmont avenue. The entrance, forming a half circle and flanked by imposing stone pillars, is a pleasant introduction to the beauty of the grounds. The ground is rolling, the drives wind about so that the view is gradually unfolded, and most of them are bordered by shade trees which have attained a considerable height. Fine old elms and oaks add to the dignity of the place. All of the roads lead from the entrance to the four lagoons that have been constructed near the middle of the park.



SHOWING ROAD AND TREE DEVELOPMENT, BELMONT PARK CEMETERY, YOUNGSTOWN, O. LAKE AND BRIDGE, BELMONT PARK CEMETERY, YOUNGSTOWN, O.



ENTRANCE AND SUPERINTENDENT'S RESIDENCE AND OFFICE, BELMONT PARK CEMETERY, YOUNGSTOWN, O.

Space has everywhere been reserved for flowers and shrubbery, which have now had time to attain to a sizeable growth. The lagoons and their surroundings are the most distinct feature of the cemetery's landscape architecture. They are not entirely artificial, but are the utilization of small ponds which were there when the park was laid out. They are quite large and are connected with each other by cement runways, some of which are crossed by small stone bridges. The lagoons are fed by springs, but as an additional water supply, deep wells have been driven which provide the whole cemetery with an inexhaustible flow. Beautiful pond lilies in a variety of colors are now blooming in several of the lagoons, and on one of them a family of pure white Pekin ducks has made its home.

Two attractive lily ponds, connected by a waterway spanned by a substantial concrete bridge, add to the attractiveness of the grounds. The bridge is 16 feet wide and 20 feet long.

The new "Sycamore plat," recently developed, is a restricted section with carefully planned shrubbery plantings to give unusual privacy to individual lots.

About 4,000 shrubs and 100 trees have been planted in the last two seasons, and a half mile of macadam road, stone gutters, and the necessary catch basins built. Twelve hundred feet of iron fence six feet high has also been built. The superintendent's residence cost about \$5,000.

The entrance to the community mausoleum is ten feet south of the center of the cemetery. The building is of granite, 150 feet long and 25 feet in height. It was erected at a cost of \$60,000.

The cemetery covers 100 acres, thirty of which have been improved. Every lot is sold with perpetual care and the perpetual care fund now exceeds \$30,000, and is expected in time, as the other lots are sold, to increase to \$150,000.

Apart from the investment in land and community mausoleum, about \$80,000 has been spent in improvements. Most of this

has gone into roads and drainage; not only is every lot provided with 20-foot cross-section drainage, but every grave is under-drained to insure dryness.

At present the number of lot owners is 774. John H. Fitch is president of the association; Judson Brenner, vice-president and auditor; Fred G. King, secretary and treasurer; B. F. Wirt, counsellor; Fred I. Sloane, superintendent. The superintendent, who came to Youngstown last year from Ironton, O., has had many years of experience in his work, and is in addition a practical landscape gardener. Mr. Brenner, who gives a large part of his time to the cemetery's affairs and had a leading part in its establishment, has been interested in cemeteries all his life, his father, John Brenner, having been superintendent of Oak Hill Cemetery from 1865 to 1883. Under the able direction of Mr. Brenner and Mr. Sloane improvements are steadily going forward and every effort is made to keep the management thoroughly abreast of the times.

CEMETERY MEN IN ANNUAL CONVENTION

Twice during the existence of twenty-nine years the Association of American Cemetery Superintendents has met at Minneapolis, Minn. First in 1893, the association's seventh meeting, and again in August, 1915, twenty-two years later. It is interesting to note that, with the exception of one day, the dates of the meetings were identical, and that of the forty-one members who attended the first meeting eleven were at the last.

The progress that has been made in cemetery management in the intervening years, very largely attributable to the influence of this organization, is nowhere better exemplified than in the leading cemeteries of Minneapolis and St. Paul, now popularly known as the Twin Cities. Difficulties that seemed insurmountable to the cemetery reformer of two decades ago have been over-

come, with such pleasing results in these modern cemeteries as to have afforded most profitable object lessons for the visiting superintendents, who must have returned to their homes with an enlarged vision of better work in their own grounds.

The assembly hall in the West Hotel, the headquarters for the convention, was well filled with a representative gathering of superintendents and their wives from the Middle West, South and East when President Thomas Wallis, superintendent of Rosehill Cemetery, Chicago, called the convention to order on the morning of August 24. The convention was opened with prayer by Rev. Samuel J. Reed, D. D. Hon. W. G. Nye, mayor of Minneapolis, extended a very cordial greeting, in the course of which he took occasion to give some interesting information regarding the

growth of the city, which has not yet passed its fiftieth anniversary. Edward G. Carter, superintendent of Oak Wood Cemetery, Chicago, responded in fitting terms in behalf of the association.

President Wallis presented his annual address, as follows:

President's Address.

Ladies and Gentlemen of the Convention:

It will be needless for me to even attempt to mention the many benefits derived from these gatherings where plans are laid for research in many lines, current topics discussed, all tending toward the one objective point—the improvement of the Cemetery. It is not my intention to burden you with the facts regarding the advantages of combined effort of this kind, exemplified in our organization, with which you are all familiar, but I do ask, however, your indulgence for a moment in reviewing a few of the more important topics which have been brought up before for consideration by some of our worthy past presidents. They are topics which seem to me to be of such great

value to all cemetery officials that repetition should be pardonable and a reconsideration highly essential.

For instance, the modern cemetery maintained as a memorial park with its beautiful views and well kept lawns and drives has developed to such an extent and the knowledge required of the superintendent has broadened itself so extensively, that it has converted that office into a highly professional one. For that as the main reason it is essential that we should bear strongly in mind that the new, and especially the young members, particularly those representing the smaller cemeteries,

ing in a little picture or a short note, or both, it will reach one, or perhaps many, who have the same problem to overcome and are laboring under great difficulties. Our medium will, in addition, become an encyclopedia and serve as a reference; something this Association has been striving to secure for many years past.

In closing, I wish to extend to the members my most sincere thanks for the honor of serving them as President of this Association and I greatly appreciate the services of the officers and members of the various committees who have put forth their best efforts to make this meeting a success.

pers by John Reid, superintendent of Mt. Elliott and Mt. Olivet cemeteries, Detroit, Mich., who gave some very practical hints on our native shrubs and flowering plants, and Robinson Farmer, an expert accountant of Columbus, O., who discussed very comprehensively the subject of "Cost Accounting and Care Funds." Mr. Reid's paper was as follows:



MEMBERS OF A. A. C. S. AT CHAPEL IN LAKEVIEW

feel sensitive and are apt to be rather backward when they first attend our gatherings in quest of practical knowledge. It is quite true that many of the topics discussed are oftentimes in substance a repetition of what has been said before. I take this opportunity of appealing to our members of wide experience to be patient and forbearing, and strive to show their utmost interest in the proceedings tending toward the advancement of their fellow-members and the welfare of their chosen profession. We must not lose sight of the fact that to make our meeting productive of good for many who must account for the time and expense incurred in attending, it is essential for the members of wide experience to share with those in quest of knowledge.

It has been my aim during my term of office to extend our membership into as many cities as was possible with the assistance of our present members to whom communications were addressed, and I hope the result will prove satisfactory. Any new members I know will become valuable acquisitions and loyal to our cause after attending this meeting which I, with the co-operation of the other officers and committees, hope will be one of the most successful in the history of this organization.

Another suggestion which I would like to make and which should at this time have your careful consideration, is the question of electing your vice-president from the city in which the next convention is to be held. This has been the practice of several organizations kindred to ours and has proven very successful. An executive in the convention city not only concentrates the power of decision but facilitates the handling of many important matters necessary to the success of every meeting. In addition, it would no doubt aid in solving some of the most difficult problems and relieve an occasional embarrassing situation. By adopting such definite policy, it is my opinion that improvement in the administration of affairs and numerous other benefits will be the result.

Another matter to which I wish to direct your attention briefly and which no doubt will tend toward the source of much good, is the exchange of items of interest through the press. While I am pleased to say there has been a great improvement the past years, still there are many of us prone to lose sight of the fact that oftentimes experiments which we are conducting within our own grounds and the beneficial results we have obtained, are of vital interest to our fellow-members. While it is quite true there are sometimes results obtained in our own locality which would not be successful under other conditions, nevertheless there are many of us who would profit immensely by these experiences and it seems to me that publicity should be given all such matters. One might sometimes overcome a condition by means which to him might appear rather simple, but by send-

Secretary-Treasurer Bellett Lawson, Jr., in his annual report showed a membership of 248. Sixteen members were added during the year, six were dropped for non-payment of dues, and there was one resignation and one death. Receipts, including cash on hand at last meeting, were \$1,232.10; disbursements, \$745.55. The report called attention to the fact that all of the members had not yet provided themselves with the association button usually worn at conventions. The buttons are gold, finished in black enamel; they bear the letters A. A. C. S. and the year of organization, 1887. They are furnished at actual cost, \$1.15.

The automobile ride in the afternoon took the visitors over a portion of the beautiful park and boulevard system of the city of Minneapolis and through Hillside and Crystal Lake cemeteries.

The evening session was devoted to pa-

NOTES ON USEFUL NATIVE AND OTHER ORNAMENTAL PLANTS APPARENTLY OVERLOOKED.

By John Reid, Superintendent, Mt. Elliott and Mt. Olivet Cemeteries, Detroit.

At the Milwaukee Convention I suggested that members write short papers on the most useful trees and plants of the various kinds in their grounds, their failure as well as their success with them, as we can learn a great deal by discovering the cause of a failure. I believe this would be an incentive to greater interest in the judicious embellishment of the grounds in our charge. Those principles will be strictly adhered to in this paper.

There is no reason why our cemeteries should not be up to the standard of keeping of the parks in our vicinity, at least in beautiful shrubbery and hardy flowering plants. No doubt the park men have the advantage in so far as they can reserve beautiful open lawns, while the cemetery man with similar beautiful open space in a short time finds the view obstructed by meaningless chunks of granite and marble requiring a good deal of skill and patience to make it attractive.

It's true that we miss in our annual visit to cemeteries many native trees, plants, shrubs and vines and yet few of them are excelled by later importation. I have noted a few of those things including some imported with which you are all well acquainted and I believe you will agree, that we should see more of them in our travels. What have we more beautiful than our native Amelanchier, known as service berry, Juneberry, etc. Its beautiful racemes of white lace-like flowers, produced in abundance about the same time as the foliage, adding to the beauty and delicacy of both. This small tree, or large shrub, is one of the first to flower in spring. Indigenous in many locations and it deserves a place in our collection.

The Cornus family (Dogwoods) is truly prolific in useful shrubs and small trees. Cornus Florida is one of the earliest to brighten up our woods and shrubbery borders in spring with a profusion of large white star-shaped flowers, the foliage in fall turning to various tints, from pink to scarlet. Its fruit is orange scarlet tint and produced in abundance. Few things are more attractive for our use. This is not used as much as it deserves.

Where a bank of foliage is required few things will fill the bill better than the dogwoods, particularly Cornus Mas. (Cornelian Cherry) a thrifty shrub of good foliage and excellent when in fruit, which is of orange scarlet tint and produced in abundance. Few ornamentals are as good for our use, yet it is seldom seen. Cornus paniculata, a graceful twiggie shrub bearing a profusion of



MEMORIAL SERVICES AT GRAVE OF LATE SUPERINTENDENT, JOHN M. BOXELL, AT OAKLAND CEMETERY, ST. PAUL.

small white berries from early in September till late in fall. *Cornus stolonifera*, *Cornus coccinea* and *Cornus sanguinana* are all good foliage and the attractive scarlet branches of the last four named are very showy in winter and very effective with a background of evergreens when the ground is covered with snow. All the species mentioned are native except *Cornus Mas*. The *Cornuses* are not particular as to soil and will do well in either light or sandy land, or heavy soil and can be used under the shade of large trees or in the full exposure to light and sun. *Cercis canadensis*, local name Judas tree, red bud, etc., very early in spring

fortunate in having so many beautiful native shrubs and vines in the vicinity of Detroit, and all are listed for sale by nurserymen. Nursery grown stock will prove more satisfactory, as collected stock has to be cut back severely and given a new start for a year or two in the cemetery nursery, before being permanently placed.

We will leave this class of ornamentals for the present and take up the good old fashioned herbaceous and other plants, so useful in nooks and corners. Many of them are worthy of prominent locations in any cemetery. The beautiful anemones, in their efforts to prolong the seasons floral dis-

hers, who have had perhaps a very limited training in the art of gardening and are timid about handling ornamentals, being afraid of failure, etc. The only mistake and failure you are making is in not getting them. Plant freely of the hardy hybrid, perpetual roses, peonies, funkis, phloxes and such things in full exposure to light and sun, in well prepared borders made rich with plenty of well decayed barnyard manure.

The grand display of flowers and foliage will more than repay you for the little extra labor and, better still, our fear of failure will be banished for good. A long list of names of plants



ERY, MINNEAPOLIS, AUGUST 25, 1915.

Photo by Camera Craft, Minneapolis.

the leafless branches and twigs of these small trees or shrubs are clothed in a thick mist of delicate deep pink flowers. Planted among the early blooming trees they produce fine effects. They are equally valuable for planting in groups or individually. Their radiant flower masses are followed by pleasing glossy foliage. This valuable native tree should be more extensively planted. It thrives rather well in light sandy soil, equally so, in well drained heavy land. The sassafras (*Laurus sassafras*) though the sassafras grows wild all over the country wherever the soil is rich and warm, in our woods and by the road side, it is certainly the most neglected, considering the rare beauty of its foliage of all our native trees. Grown thrifty in open grounds the sassafras is one of the most, if not the most elegant small tree of the north, and should be more extensively planted. Native sumachs (rhus) trees or shrubs with alternate, usually odd, primate leaves. All the species are beautiful and have been apparently much neglected by planters. Anyone who has observed our native sumachs covering rocky hillsides or railway banks, with their rich fern like verdure in summer, or when autumn has given them brilliant coloring, should appreciate their value as subjects for ornamental planting.

Ailanthus glandulosa, (tree of heaven.) This beautiful foliaged tree, although not a native, will grow in very cold localities if conditions are provided so that it can get its roots below frost line. We have found the roots of this tree six feet below the surface on a poor sandy knoll. A single specimen 18 to 20 feet high and about the same width of head, has few equals amongst our trees. Its beautiful compound foliage resembles the sumach, but is from three to five feet long producing a tropical effect wherever seen. Young plants favored with good root conditions make a growth of from five to seven feet in height in a season, by cutting it down every spring within a few inches of the surface, the annual shoot will produce its beautiful tropical foliage and can by this treatment be kept at this height for several years. When treated this way it is useful and effective when brought into use at intervals, among some of the larger grown shrubbery beds, where their foliage will brighten up the dullness of the shrubs when out of flower. This tree is considered a native and erroneously called a sumach, in the vicinity. It is a Chinese importation of sixty or more years ago.

Xanthoxylum Americana (Local name Prickly Ash) Indigenous in the vicinity of Detroit, Michigan. Its attractive primate leaves of a dark glossy, green, deserve a place among mixed borders of strong growing shrubbery; is not particular as to soil and does well in shade or full sun. We have had satisfactory results from the subjects referred to, many of them brought in from margins of woods and roadsides. I am sure we are very

play, truly deserve to be more frequently seen. They bloom late in September and end only with killing frosts.

Asters of the type "Novae Angliae" from one to six feet high, as early and late bloomers, cannot be surpassed with their profusion of various shades of blue, pink, crimson, and white flowers. Members of this association that attended the St. Louis Convention remember the gorgeous display of this class of plants in the botanical gardens and with few exceptions they were all natives of Missouri. Regardless of where our homes are there is an abundance of native herbaceous plants, shrubs and vines, well worth bringing in and locating in some appropriate place for such things. There are no plants that will so appreciate a little preparation of the soil nor are there any that will give better results for a special preparation, such as deep digging of border and liberal supply of well rotted barn yard manure. For years I have noticed our lack of interest in the numerous useful and beautiful things growing wild in the vicinity of our homes; my appeal in their behalf is not to be construed as a reflection on the importation of ornamentals from foreign countries, as our beautiful displays in cemeteries and parks are made up to a great extent of imported stock.

I wish to impress on the minds of brother mem-

bers for others to plant is not practical. It may be of some interest to mention useful shrubs and evergreens that do well at Detroit, where we have at times zero to sixteen below. Still Detroit cemeteries will be found to contain a varied as well as extensive collection of flowering trees, shrubs, vines, evergreens and hardy herbaceous plants.

This fall would be an excellent time to put some of his valuable suggestions into practice.

Mr. Farmer's paper will appear in an early issue.

At the morning session of the second day Carl E. Kern, assistant superintendent of Spring Grove Cemetery, Cincinnati, O., discussed "The Best Method of Eliminating Unsightly Objects on Lots Without Offense to Lot Owners." This address will be printed in full in an early issue of PARK AND CEMETERY.



REST HOUSE, OAKLAND CEMETERY, ST. PAUL.



VIEW IN HILLSIDE CEMETERY, MINNEAPOLIS.

"Different Sources of Income for Cemetery Corporations" was considered in an exhaustive paper by James Currie, Forest Home Cemetery, Milwaukee, Wis. Mr. Currie handled his subject in his usual thoroughgoing manner and offered many valuable suggestions, incidentally condemning in no uncertain tones the practice of paying commissions to undertakers for selling lots. His paper appears on another page.

In a carefully thought-out paper, based upon practical experience in one of Chicago's largest cemeteries, T. H. Little, secretary and general manager of Mt. Hope Cemetery, discussed the "Advantages and Disadvantages of Deferred Payments on Lots Purchased." His deduction showed the advantages of such a practice to be greater than the disadvantages. This paper will be printed in a later issue.

J. Warren Roberts, a leading funeral director of Minneapolis, delivered an address on "The Co-ordinate Function of Cemetery Superintendents and Funeral Directors," in which he appealed for co-operation between the two professions that would result in better service for the pub-

lic. His address will also be printed in these pages at an early date.

The automobile ride in the afternoon had as its objective point Lakewood Cemetery, which was reached after a delightful ride of twenty-five miles or more over the river road overlooking the Mississippi River, stopping in Minnehaha Park to view the famous falls immortalized by Longfellow, thence over Minnehaha parkway, taking in St. Mary's Cemetery en route. Lakewood Cemetery, with its handsome mortuary chapel, its attractive entrance building and charming landscape, has often been illustrated and described in the pages of *PARK AND CEMETERY*. The trustees have spared no expense in their efforts to make the cemetery as nearly ideal as possible. The topography is admirable, and while nature has done much, the skill of the landscape engineer has contributed not a little in creating many of the beautifully undulating sections. On the newer sections the modern lawn plan is seen to best advantage. Here there is an almost unbroken lawn surface. Grave and lot markers are set flush with the sod; mounds have been abolished and monuments only, but one on a lot, rise above the turf.

Superintendent Hobert did not have to keep his ear to the ground to hear complimentary remarks about Lakewood; they were on every tongue. After an inspection of the chapel and its accessories, a tour of the grounds, and posing for the group photograph illustrated in this issue, the guests gathered where the shadows were lengthening on one of the spacious lawns and enjoyed a delicious luncheon. There were about 180 persons present at the luncheon, including G. A. Brackett, president Lakewood Cemetery Association; C. M. Loring and ex-Congressman Loren Fletcher, all of whom have been trustees of Lakewood for forty-five years. Wm. M. Berry, Mrs. Hobert's father, who is now 88 years of age, was also present. Mr.

Berry was the first superintendent of the Minneapolis parks and retained the position for twenty-two years. *PARK AND CEMETERY* readers have often heard Mr. Loring referred to as the "Father of the Minneapolis Park System." He has always taken a keen interest in tree planting and is still promoting work of that kind in Riverside, Cal., where he makes his winter home.

At the evening session Professor F. L. Washburn, state entomologist, Minnesota Agricultural College, delivered an interesting and instructive address on "Birds and Insects of the Cemetery," illustrated with lantern slides. At the close of the lecture a bird song by Charles Kellogg was rendered on the victrola in which the notes of most of the best-known birds were cleverly mimicked. Sucking and biting insects, caterpillars, cut-worms, borers, grubs, scale and the several insecticides recommended for their extermination were discussed. Birds, the good and bad, were considered; traps were recommended for abolishing the sparrows and houses for encouraging wrens, bluebirds and chickadees to nest in cemeteries.



MRS. E. E. HAY, ERIE, PA., BEING INTERVIEWED.

"Brains and Muscle," a paper written by W. N. Rudd, president of Mt. Greenwood Cemetery, Chicago, Ill., in which he gives some very practical advice, was read by A. R. Gross, superintendent of that cemetery, and will appear in a later issue of this journal.

The Thursday morning session concluded the business of the convention. A paper on "Cemetery Roads" was read by H. E. Ashworth, of the Barrett Manufacturing Co., in which he dwelt upon the necessity of constructing enduring roads in cemeteries and suggested the best methods to adopt in building them. The question "Is it necessary to have all lots, particularly small lots, accessible by a path, alley or avenue?" was debated by John J. Stephens, Crown Hill Cemetery, Indianapolis, Ind., and Geo. L. Tilton, Graceland Cemetery, Chicago. Their decision was in the affirmative, with certain qualifications.

H. S. Adams, superintendent, Forest



CHARLES M. LORING POINTING OUT THE BEAUTIES OF LAKEWOOD.

Hills, Boston, Mass., and A. R. Gross, superintendent, Mt. Greenwood Cemetery, Chicago, were appointed by the chair to debate in the affirmative and negative, respectively, the question, "Should contracts for perpetual care of lots state specifically all work contemplated?" The debate brought out some interesting views on the subject, but was not decided by vote.

The election of officers resulted as follows:

President—James Warren, Jr., superintendent, "North Burial Grounds," Providence, R. I.

Vice-President—R. N. Kesterson, president-treasurer, "Greenwood," Knoxville, Tenn.

Executive Committee—H. S. Adams, superintendent, "Forest Hills," Boston, Mass., three years; George M. Painter, superintendent, "Westminster," Philadelphia, Pa., two years; George Troup, superintendent, "Forest Lawn," Buffalo, N. Y., one year.

Secretary-Treasurer—Bellett Lawson, Jr., secretary-manager, "Elmwood," Chicago.

The committee on location for the 1916 meeting reported in favor of Norfolk, Va.

The entertainment provided by the local committee for the final afternoon in Minneapolis included a trolley ride of fourteen miles to Excelsior, where two pleasure steamers chartered for the occasion were boarded for a ride on beautiful Lake Minnetonka. Although the extreme eastern and western points of the lake are not more than a dozen miles apart, the irregularity of outline, combined with that of the islands in the lake, give it a shore line of considerably more than a hundred miles. Summer homes ranging from simple cottages to palatial residences with handsomely planted lawns extending to the water's edge dot the wooded shores for many miles. This delightful excursion was greatly enjoyed.

New members admitted to the association at this meeting are: Otto C. Jaeger, superintendent, German Lutheran Cemetery, St. Paul, Minn.; Fred W. Hammond, superintendent, Blossom Hill and Old North Cemeteries, Concord, N. H.; H. Hanesch, superintendent, Oakwood Cemetery, Red Wing, Minn.; Paul Priener, superintendent, St. Mary's, Minneapolis, Minn.; Chas. L. Craig, assistant superintendent, Forest Lawn, Omaha, Neb.; Wm. W. McFarland, secretary, Fairview Cemetery, Waterloo, Ia.; John M. Ely, secretary, Oak Hill Cemetery, Cedar Rapids, Ia.; Ed E. Cammon, secretary-superintendent, Crystal Lake, Minneapolis, Minn.; F. A. Swanson, superintendent, Riverside Cemetery, Moline, Ill.; Alex. A. Doughty, superintendent, Mt. Muncie Cemetery, Leavenworth, Kan.; H. B. Shook, superintendent, West Lawn Cemetery, Omaha, Neb.; Chas. M. Fuller, superintendent, Mt. Hope Cemetery, Lansing, Mich.; Leonard W. Ross, general superintendent, cemetery department, Boston, Mass.; O. T. Carpenter, associate member, White Plains, N. Y.;

W. H. Webber, secretary-manager, Knollwood, Cleveland, O.; H. C. Bassinger, superintendent, Woodmere Cemetery, Detroit, Mich.

The Memorial Committee submitted a resolution of condolence on the death of Joseph Lear, superintendent of Memorial Park Cemetery, Wilmette, Ill., who died during the past year.

The fourth day was devoted to St. Paul. Street cars conveyed the guests to a point on the Mississippi River boulevard, where automobiles were taken for a ride over some of St. Paul's most beautiful boulevards and residence streets. Calvary Cemetery, Como Park, Rose Lawn Cemetery, German Lutheran Cemetery, Wheelock Parkway, Oakland Cemetery and Lake Phalen Park systems were seen en route.

While at Oakland, at the suggestion of George M. Painter, a simple but impressive service was held at the grave of the late John M. Boxell, formerly superintendent and for many years an active member of the A. A. C. S. Brief remarks were made by Frank D. Willis, secretary and superintendent, of Oakland. George W. Creesy, Salem, Mass., led in repeating the Lord's Prayer, and the members placed purple asters on the grave, so arranged as to cover the entire surface. Mrs. Boxell, who was subsequently advised of the action by Mr. Willis, replied in the following words: "Your note was received today advising me of the action of the A. A. C. S. You may be sure that little action coming from the friends and co-workers of my dear husband touched me deeply and was appreciated by my family. We extend to you all our heartfelt thanks."

The final number on the program of this very successful convention came in the form of a dinner at the Commercial Club in St. Paul, at the conclusion of the trip. Mr. Louis Nash, commissioner of parks and playgrounds, extended a hearty greeting to the guests in behalf of the mayor and the citizens of St. Paul and spoke entertainingly along the lines of civic improvements, to which Mr. Currie responded in his usual happy vein.

The committee on general resolutions submitted its report, extending the thanks of the association to all who had planned, assisted or contributed in any way to the convention, which is regarded as "one of the most successful in the history of the A. A. C. S., both from the standpoint of business transacted as well as opportunity for social intercourse and entertainment enjoyed."



ECHOES.

One of the many pleasant features of the convention was the luncheon tendered the ladies by Mrs. A. W. Hobert and Mrs. Wm. Eurich at Donaldson's Tea Room. Covers were laid for forty and there was but one vacant chair. The floral decorations, from the Lakewood greenhouses, were very beautiful and the ladies were loud in their praise of the hostesses for the charming manner in which they were entertained.

The trade exhibits were not as numerous as they have been at some conventions. William Donker, secretary of the Frigid Fluid Co., Chicago, Ill., exhibited one of that company's automatic safety lowering devices.

H. D. Pierce, manager Chicago branch of the Vermont Marble Co., with W. J. Saladin, of St. Paul; Fred Chamberlain, general agent of the Austin-Western Road Machinery Co.; R. H. Wessell, special representative of the same company; A. B. Cowdery and H. E. Ashworth, of the Barrett Manufacturing Co., Minneapolis, Minn.; Rowe Morrison, Chicago, and Harry A. Davis, Syracuse, N. Y., representing the Harrison Granite Co., and C. W. Wellman, the Device man, Oshkosh, Wis., were in attendance.

The A. A. C. S. has two octogenarian members who are very faithful in their attendance at conventions—R. D. Boice, of Geneseo, Ill., and G. Scherzinger, of Fond du Lac, Wis. Mr. Boice was accompanied by Louis F. Rehner, his assistant at Oakwood Cemetery. Mr. Scherzinger was unaccompanied. After the convention he went West to take in the expositions at San Francisco and San Diego.

The local monument dealers and undertakers were generous in the use of their autos for the entertainment of the visitors. The dealers who assisted in this way are P. N. Peterson Granite Co., Wm. Schoenrock and C. J. Staniland, of the Twin City Granite Co., of St. Paul, and Leonard Eckes, of Minneapolis.

The convention committee is to be congratulated on the excellence of the program and the successful manner in which it was carried out. The subjects chosen for papers and debates and the manner in which they were handled by those selected to discuss them reflected creditably on all concerned. The weather could not have been more favorable for sightseeing and for the various entertainments provided. The convention committee was composed of Messrs. A. W. Hobert and William Eurich, of Minneapolis; J. P. O'Connor, H. M. Turner and F. D. Willis, St. Paul. Mr. O'Connor was unavoidably absent, having been called to the northern part of the state by his family a few days before the convention. Mr. O'Connor's friends, who regretted his absence, will be pleased to know that his unexpected summons proved to be of no serious significance.

ORGANIZING and DEVELOPING a MODERN CEMETERY

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City, Mo.

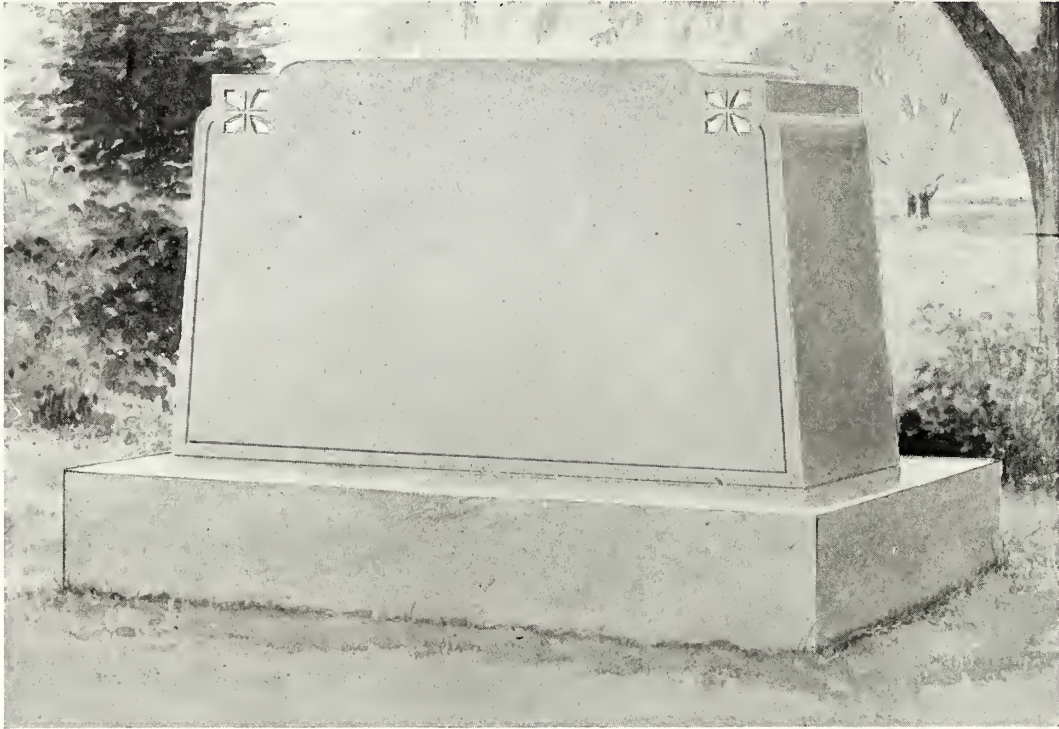
IX. ENTRANCE, BUILDINGS AND MONUMENTS.

While it has been shown that the success of a cemetery depends first upon proper site and location and later upon careful landscape development, including the problems of roads, paths, lot and plant-

Careless or incompetent architectural service is the poorest investment which a cemetery can make, and the worst example which can be set to the lot owners.

Cemeteries soon reflect the architectural

the more established styles, especially the simple classic forms which had been used so successfully from colonial times, fell into disuse or were sadly perverted. Wierd constructions, the so-called beauty



ILLUSTRATING TENDENCY TOWARD SIMPLICITY OF LINE AND REFINEMENT OF ORNAMENT IN MODERN MEMORIAL ART.

ing arrangement as well as building sites, nevertheless the entrance lodge, chapel and office, as well as the various public or private vaults or mausoleums and memorials, present some varied and interesting problems in architecture, the solution of which will enhance or mar the landscape beauty.

taste of a community and the general architectural excellence of the time. The last half or two-thirds of the nineteenth century was a period of unrest in architectural design and of poor taste in general in matters of aesthetics, as viewed from the present attitude. During this period

of which was based more upon interest in detail than in mass or composition, sprang up all over our land—the types which have been facetiously referred to by various people as “Early Boarding House,” “Pullman Car Style of ’76,” “German Elizabethan,” and other equally uncomplimentary terms. While the towns and cities have many examples of this class of buildings in court houses and city halls, as well as privately owned buildings and residences, the cemeteries of the period also suffered much, perhaps most, because of the lack of restrictions and regulations. The monuments, few of which were good in themselves, when placed amid a jungle of stone work, each striving to outdo the neighboring one in size, height or ornate carving, effectually prevented any feeling of dignity or quiet peace.

It is most pleasant to note the change of the past decade or two. It seems that the country is experiencing a renaissance in architecture, and again the cemeteries have quickly reflected the movement. The classic and Gothic styles in their various forms and orders have been revived, adapted to modern construction and perhaps used more successfully than ever. Recently there have arisen prophets who predict and preach the coming of a new style



BLAKE MEMORIAL CHAPEL, HARMONY GROVE CEMETERY, SALEM, MASS. A good example of Gothic architecture and grouping of cemetery buildings; E. M. A. Machado, arch.



ENTRANCE - HIGHLAND PARK CEMETERY - KANSAS CITY, KAN.

SKETCH ILLUSTRATING THE ADAPTATION OF THE MISSION STYLE OF ARCHITECTURE TO A CEMETERY ENTRANCE.

which will be original, unique, expressive of construction, and perhaps become national. Some of the work of these pioneers is very interesting. No doubt they are talented students of pure design, but with the example of the past century still so vividly in our minds it will be well to adopt innovations slowly. The originality of the work (one of the principal claims for it) will, of course, automatically fade if the style becomes general. At least the work to date would seem to be unsuited in cemetery buildings.

The Gothic style in its several forms deserves particular mention. It seems, on

account of its religious association, to be especially suited for cemetery buildings, and it might be added that good taste is largely a matter of fitness. This type cannot, however, be successfully used on flimsy or inexpensive construction. By its very nature it expresses permanence and solidity.

The classic styles in the various orders seem especially suited to small private vaults and mausoleums.

Somewhat akin to the Gothic because of religious association, but more especially adapted to the warmer and sunnier portions of the country, is the type commonly

known as Mission, which owes its origin to the historic missions of California, Texas and Old Mexico. This, like the Gothic, lends itself admirably to effective grouping and picturesque compositions with walls and cloister walks connecting piers and buildings. In addition, the Mission style admits of the use of pergolas and arbors in simple forms, which add a note of interest.

The opportunity to create a favorable first impression at the entrance should not be overlooked, otherwise a good after impression within the grounds will be doubly difficult. A previous chapter mentioned



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ANOTHER EXAMPLE OF REFINED ORNAMENT AND GOOD LINES IN A CEMETERY MEMORIAL.

the opportunity and advisability of grouping several of the buildings together in connection with the entrance design. This is often a gain both as regards convenience and beauty, whether the composition is symmetrical or irregular. The general tendency in cemetery entrances seems to be to make them more inviting and cheerful, less forbidding and solemn than in the past. This is in keeping with the change being wrought by the introduction of the lawn plan in the landscape development.

The service buildings, stables, storage sheds and foreman's cottage, although probably not visible from the developed portion of the cemetery, should not be wholly forgotten as regards beauty. Beauty, so far as it is compatible with, or the outgrowth of, utility, should be encouraged in every department.

Monuments, while less numerous in the modern cemetery, are undoubtedly showing a marked gain in quality. This is due to the general awakening to good design, and much credit can be given the magazines and publications which have trained and guided the tastes of both the dealers

and the public away from the maze of meaningless carving and ugly shapes to the simple elegance of good proportions and harmony of line and curve. In the place of a mass of stone giving almost vulgar publicity to the family name, how much more of a real memorial would be a truly artistic slab or bronze plate set in the lawn, the work of some high-class sculptor and perhaps in design typifying something of the life of the departed. A more elaborate and larger monument with a suitable setting would be appropriate to mark the resting place of a person of local or national importance. Perhaps 90 per cent of the monuments of the ordinary cemetery bear names which would be of interest only to a small circle of friends. The monument is erected in many cases merely to forestall the criticism of others. This is fairly well demonstrated by the large percentage of sales in sections where monuments or markers above the level of the ground are prohibited. Monumental art as well as architecture is being influenced to some extent by the work of the modernist or the futurist. Some of this is spoken of as the Modern German, and it

must be admitted that many of the creations in this style are more than pleasing. Others approach the danger line of originality where the monument becomes more of a curiosity than a memorial.

The enclosure for a cemetery is worthy of some consideration. It should present an ornamental appearance and be difficult to climb. In cases where the rock is abundant and has to be cleared from the land a stone wall, either dry or with mortar, topped with a few well-placed barbed wires and overgrown with vines, will make both a beautiful and safe boundary. A simple type of wrought iron fence is not unduly expensive and is effective. Less costly still, and by no means undesirable, is the woven wire fence. This can be overgrown with vines, making quite a solid screen, and if doubly galvanized will last for fifteen or twenty years, or even more. Care should be taken to secure a fence of coiled spring wire, so that it will remain tight through all conditions of expansion and contraction. Extra protection can be had by several barbed wires stretched on a framework at the top, making the fence practically unclimbable.

PLANTING AND CARE OF CEMATORY GROUNDS

Address by J. Franklin Meehan, at the Third Annual Convention of the Cremation Association of America, at Buffalo, N. Y., August 26 and 27.

Death is the result of life, and while one of the most natural effects of life and the open door to a place of love, peace and eternal joy, yet it is often approached with dread and hesitation. Do doubts arise, or is it merely the fear of the death struggle and thoughts of the disintegration of the body? The latter more than the former is probably true, and therefore, it seems our duty to dispel this feeling as far as may lie in our power by making the surroundings of the places in which the last sad rites over the remains of our loved ones are performed as beautiful as possible. Particularly is this true if the grounds of the crematorium are also occupied by a columbarium or urn-hall, a peaceful place of rest of our dear ones until that great period when we shall all meet together at the end of time.

Generally speaking, there is less difficulty in laying out large tracts of land for crematoria sites than small ones, hence a few general suggestions concerning the latter may not be amiss.

Nothing can possibly be more beautiful or restful than Nature's own works unhampered by the hands of man. This is particularly noticeable, or at least greatly emphasized, in views covering a great expanse of territory, for instance, valleys as viewed from some high, mountainous elevation extending far out over the land until the trees and sky lines seem to meet, or again a view to some great river as it winds here and there in its sinuous course from mountain to mountain until it finds itself meeting the sea.

Those who love to wander through wild parts of the country right in Nature's wildest tangles have found great masses of the most beautiful flowers or mounds upon mounds of ferns. Has anyone ever seen similar works of man which would begin to compare with these effects? They seem to have been placed with the main thought of showing just what Nature can do. Again, what can possibly be more wonderfully effective than the autumnal foliage? Every color and every shade are represented; apparently miscellaneous spread over a great extent, yet always in harmony. The reds and the yellows of the deciduous trees vie with the greens of the firs, spruce and pines for prominence. Notwithstanding that hundreds of varieties are represented and found growing indiscriminately in one place or another, yet they all unite to make one perfect picture. Truly the works of Nature are perfect.

From the works of Nature the landscape architect draws his inspiration. The physical and economical needs of man compel the use of artificial treatment to a very great extent. Buildings must be erected, roads and paths constructed for utility and convenience; even trees and shrubs to a certain extent must be grown in unnatural positions and under unusual conditions which in many instances are more or less foreign to their natural environments. Even to the grass itself. Ordinarily it would mature, seed and reproduce, but with the necessity of lawns and tidy appearance it must be cut short.

The general layout of the ground

should conform as nearly as possible to the natural topography, both for economical reasons and for beautiful and pleasing effects. Buildings should be so placed that they will become a part of the one big picture. A location should be selected from both a practical and aesthetic standpoint, with due consideration given to drainage, exposure, approaches, vistas both on and off the property, and the general layout of the balance of the grounds. Avoid as far as possible the usual dead, straight lines and symmetrical buildings, and, as in the case of the general planning, conform to the natural sweep of the ground.

In laying out the roads and walks, consider first the requirements of ingress, egress and the internal necessities, and then once again follow the general topography wherever practical. This system will simplify construction and conform to the general lines which it seems desirable to emphasize. A thorough system of drainage is of most importance. This refers not only to surface drainage from buildings, roads and lawns, but also to sub-drainage, which is frequently of more importance than the other.

Let us now consider the planting, which is the necessary connecting link between the artificial and the natural. This also is the starting point of that very important item, maintenance, and is frequently the determining feature of a beautiful and well-kept establishment compared with one of an unattractive and unsightly property. It is entirely possible to so plan and plant

a piece of ground of unattractive general appearance that it may become a thing of beauty and unquestionable utility. On the other hand, some of the most beautiful projects have been absolutely ruined by injudicious location of trees, shrubs and flowers which should have been an attractive feature.

The first study is the general grouping of trees and shrubs. These must be so located that advantage will be taken of natural conditions. On the borders plantings should be plotted to form deep bays if space permits. These may be accentuated by groups extending out from the lines. Single specimens of fine old trees should be carefully preserved and backed or framed with other plantings. If entire seclusion is required, the border plantings referred to may extend around the entire property. In this case the selection of stock should be made with a view to the sky line as well as to the lawn surface, so that the general appearance will not present a boxed-in condition. Referring to vistas, nothing is more useful for giving a broad and generous effect to the landscape. They also afford opportunities for planting effects of both trees and shrubs. The junction of roads and paths usually afford excellent planting spaces, but care must be exercised not to allow such plantings to influence the general open scheme desired.

The detail planting calls for arrangement of trees, shrubs and flowers to get the individual and group effects. These may be of different characters and so selected that each may play a prominent part during the entire year. Starting with the early months come the spring flowers, and, as a rule, reference is made to only shrubs and hardy perennials. Spring flowers are the crowning features, although selections may be made so that the period really extends right up to the frost. While, as a matter of fact, the mind is apt to associate Nature's flowers more with the spring than any other season, yet the fall display is probably more prominent, though of smaller variety of bloom. Beautiful effects may be secured from the foliage alone. The different shades of green, the golden tints, the purple and variations may be grouped in such manner that they take a prominent part in the landscape effect. We have been able to copy with considerable success both foliage and flower effects of Nature, but it is doubtful if anything man has planned can reach the perfection which Nature obtains in the autumnal coloring. However, it is a high standard which we try to reach, and, therefore, it is one of the deepest studies of the landscape architect.

Even the dreary winter season may be brightened by the use of evergreens, trees with various colored barks and shrubs with berries. Is the value of the latter fully appreciated? Mention has been made of their use from a landscape point of

view, but there is still a greater one, and that is as food for the birds. It has been proven without doubt that the increase of insects is due in a great measure to the fact that the wild birds have been destroyed and are rapidly disappearing. Their nesting places are gone and the pugnacious English sparrow has helped to drive the native birds from their accustomed haunts. Food is scarce, and gradually but surely our little friends are becoming scarcer and scarcer, and it will only be a short time when they will practically become extinct. The berried plants will help keep the birds with us and at the same time add a most satisfactory feature to our landscape work.

While it is impossible to give a general list which would cover all localities, there are a number of trees and plants which may be mentioned as carrying out foregoing thoughts. Among the early spring flowers, as far as being effective, may be mentioned the Azalea, *Cercis* the Judas Tree, *Crataegus* the Hawthorn, *Lonicera* the Bush Honeysuckle, particularly the *Lonicera fragrantissima*, *Philadelphus* the Mock Orange, *Spiraea*, particularly *Spiraea Van Houttei*, *Weigela* the *Diervilla*, the Snowballs, the Magnolias, the Forsythias, the Golden Bell, the *Deutzia*, the *Cydonia Japonica* Quince. Among the hardy perennials the Iris, the Phlox, particularly the *Subulata*, *Dicentra* the Bleeding Heart, *Aquilegia* the Columbine, *Alyssum saxatile compactum* the Mad Wort, *Cerastium Snow-in-Summer*, *Vinca* the Periwinkle. All of these are comparatively hardy in any section and produce splendid spring display. Among trees and shrubs which may be mentioned for their foliage effect, either the Purple Beech, White-leaved Linden, Purple Barberry, *Sambucus Canadensis aurea* the Elderberry, *Ligustrum aureum* the Golden Privet, *Hibiscus Meehani variegata* Leaved Rose of Sharon, *Prunus pissardi* Purple Plum, *Philadelphus coronarius aureus* Golden Mock Orange, *Weigela nana variegata* variegated *Weigela* and *Hydrangea radiata*.

Many of the plants mentioned in the named list also assist in the fall foliage effect by those which are properly classed. Distinctive for that purpose are the Scarlet Oak, Sassafras, *Acer rubrum* Red Maple, *Rhus* the Sumach, *Oxydendrum* the Sorrel Tree, *Cornus florida pendula* the Dogwood, *Itea Virginica* the Willow Shrub, *Lindera Benzoin* Spice Wood, *Clethra alnifolia* Sweet Pepper, *Berberis Thunbergii* the Barberry, *Euonymus alatus* Spindle Tree.

A list of berry bearing plants as follows: *Viburnum*, *Ilex*, *Symphoricarpos*, Wild Rose, Dogwood, *Lonicera*, *Thamnus catheratica*, *Lindera Benzoin*.

Ordinarily the grounds of a cemetery are not large in extent, and, therefore, the use of large evergreens is limited to a great extent. Where they are indicated, however, the following will be found to be

very effective: *Abies Veitchii* Silver Fir, *Pinus Austriaca* the Pine, *Picea pungens* Kosteriana Blue Spruce, *Abies Nordmanniana* Nordman's Fir, *Cedrus Atlantica glauca* Blue Mt. Atlas Cedar.

Smaller evergreens must in a great measure be depended upon to give results desired on small ground. Among the broad-leaved evergreens suitable for this purpose the *Rhododendrons* and *Kalmias* play an important part. To this may be added the Yucca, the Box Bush, the *Euonymus* and *Andromeda*. A favorable list of evergreens would include *Siberica arborvitae*, the *Retinispora*, *Picea excelsa inverta*, *Picea excelsa Maxwellii*, *Picea excelsa pyramidalis*, the Junipers, particularly *Juniperus communis aurea*, *Juniperus Japonica aurea*, *Juniperus Virginiana Schottii*, *Juniperus Virginiana glauca*, *Juniperus Virginiana tripartita*, *Juniperus communis Waukegan*, *Juniperus Sabina tamariscifolia*, and perhaps, above all, the *Juniperus Pfitzeriana* and *Juniperus Neaboriensis*.

The maintenance of a property, whether public or private, occupies the same position. There are five important items to be considered: tree pruning, shrub pruning, spraying, fertilizing, and the general care of the lawns and roads. If these items have been given careful consideration at the time the property was laid out, then the cost of maintenance will be relatively small. If, however, the roads have not been properly constructed or drained, they will continually be a source of annoyance and expense. If the general drainage has been neglected, trouble is sure to be had in the disposal of water and the treatment of low and water-soaked land. If delicate or half-hardy stock has been used in the planting, it will be necessary to continually nourish and replace it. Referring to the items of maintenance just mentioned, may we consider them in the order named?

Tree pruning is very important. It must be remembered that, no matter how well cared for, they are growing under unnatural conditions. As a rule, owing to the opportunities presented, they have produced a larger amount of wood than they would under ordinary circumstances. As all leaves and vegetable matter has been carefully gathered up and removed, there is no way of naturally supplying food to the roots. Unless the trees are given attention, this will produce weak wood and dying branches. All these should be carefully removed and the tree pruned annually in such manner as its position may warrant. The method of pruning should be the removal of not only the weak and dead branches, but also those which are extending beyond the prescribed limit. Unless under extraordinary circumstances, it is never advisable to head in a tree. If it is desired to reduce the size, then remove entirely the longer limbs. In the cutting see that the point of amputation is just exactly at the collar. This will insure a

rapid bark growth and the repairing of the wound.

The pruning of shrubs should be at least an annual affair, and it is even better to prune twice during a season, once immediately after the flowers have bloomed and again in the winter. In the former case the old wood should be removed right from the ground. This will insure a new growth upon which there will be an abundance of flowering sprouts the following year. The winter pruning should be merely for the purpose of keeping the plant in the desired form and dimensions. Here, as in the case of the tree, it is seldom advisable to top them in. The same results may be secured by the entire removal of the longer shoots.

Each succeeding year seems to supply a new brand of insects or fungus diseases, and it requires a continued watch and a strenuous superintendent to keep these pests within bounds. Careful inspection should be made practically every week during the year and the invaders checked immediately upon their presence becoming known. Fungus in particular is a trouble which must be met promptly. Even over night it may present itself. Probably the best method of fighting it is to see that everything is in a strong, vigorous condition. It is a well-known fact, in the case of plants as well as in the human family, that a healthful, growing subject is seldom seriously affected. This, therefore, brings up the question of fertilizing.

While science in the experimental stations has given us the means of determining the proper kinds of commercial fertilizer to be used, yet, speaking in a general way, unquestionably the good, old-fashioned stable manure still gives the results which we desire. It will always be found of advantage to fertilize generously each year. Well decomposed manure should be sprayed under the trees and around the shrubs to an extent equal to the dimensions of the wood growth. Wherever possible this should be dug in in the spring. In the case of trees and shrubs on the lawn, naturally this is impracticable. In these cases it is wise to not remove the material until it has become thoroughly dried out. Then, instead of removing entirely, it should be raked and reraked until all the small particles have been deposited in the crowns of the grass. The lighter and less useful material can then be removed.

There are always some portions of the grounds where stable manure cannot be conveniently used. In these cases the commercial fertilizers can be properly applied. Of course, just what these shall be is determined only by the plants to be fed. Speaking absolutely in a general sense, bone meal may be used in practically every case where ordinary stable manure would be placed.

PARK NEWS.

A Preliminary Report on City Plan for Bridgeport, Conn., with supplementary material, was recently issued by John Nolen, city planner, of Cambridge, Mass. This is a report of progress, accompanied by data, surveys, maps, diagrams and plans, covering the main subjects of investigation and study to date, and also a detailed report upon bridges across the Pequonnock River. The report contains an outline for a park system and much matter of interest pertaining to parks.

New Parks and Improvements.

A great many improvements have been made in Lestikow Park, Grafton, N. D., recently. The Park Commission has cleared a considerable portion of the grove, built a dock on the river bank and constructed driveways.

A new park will be laid out at Henry, Ill., along the Illinois River, about a mile in length. Clarence E. Noerenberg, of the University of Illinois, has been awarded the commission of laying out the park.

Costly plans for the beautification of Eckwood Park, Peoria, Ill., otherwise the levee, are contemplated by Commissioner Eckley, after whom the park is named in part. Mrs. Gibson, of Peoria, Ill., offered to sell recently the land lying between the Gibson pathway and the drive to the Park Board. The tract averages about 300 feet

in width and contains 15.74 acres. This was offered at \$300 an acre. The Park Board made a counter offer of \$3,200, which was declined by Mrs. Gibson, and no further action has been taken.

A new park is being laid out at Abingdon, Ill., under the supervision of Dr. Standish, of Galesburg.

The Commercial Club, of Centralia, Wash., is considering the opening of a park in that city.

Under the direction of Chairman Blakeslee, of the Park Board, and Joseph Fors-tell, chairman of the Street Committee of the City Council, of Olympia, Wash., several residents of the west side aided in clearing away the brush and logs on the tract of land to be developed into a park. The land was donated to the city for a park about twenty-five years ago by Samuel C. Woodruff, but has remained undeveloped to date. It will be named Woodruff Park in honor of the donor.

The Commercial Association of Galveston, Tex., has authorized the transfer of the auditorium grounds to the city as a part of the new city park to be known as Menard Park. The conditions are that the association have a voice in laying out the grounds and that they be allowed the use of the park for thirty days each year to conduct a cotton carnival.

CEMETERY NOTES

At a recent meeting of the New Jersey Retail Monument Dealers' Association the following resolution was passed: "Resolved, That a letter be sent to the boards of directors of all cemeteries in the state of New Jersey, also the National Association of Cemetery Superintendents, condemning the practice of employees of cemeteries soliciting orders for individual dealers and asking that all dealers be treated alike."

For some time ill health has been interfering with the active work of one of the managers of the National Burial Device Co., of Coldwater, Mich., and on this account, and also for certain purposes of economy in operation, the plant of the National Burial Device Co. has been moved to Ann Arbor, Mich. To move a plant of this size was naturally a large undertaking, but the company is now occupying their new building in Ann Arbor and are now in position to render immediate and satisfactory service to their patrons. The new building covers considerably more ground

and affords larger space for the installation of new machinery.

Property owners in Highland township are endeavoring to have removed an old cemetery, located on the east side of the highway in the northwest quarter of section 3 of Highland township.

J. Woodward Manning, landscape architect of North Wilmington, Mass., has filed a voluntary petition in the United States District Court, showing liabilities of \$29,547.71. The assets consist of real estate valued at \$37,150, and other property worth \$5,000, a total of \$42,150.

The Elm Lawn Cemetery Company, of Elmhurst, Ill., has purchased an automobile bus to be used for the transfer of people between the station at Elmhurst and the cemetery.

The Oakridge Cemetery, of Springfield, Ill., has a claim amounting to about \$12,000, the cost for street paving, etc., on the Forest Park site, at the time the title to the park was vested in it. The park board, when the title of Forest Park was tran-

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Four Years of Tarvia at Mt. Hope Cemetery

*Mt. Hope Cemetery
Chicago, Illinois
Treated with "Tarvia B"*

It was in 1911 that this Chicago cemetery began using Tarvia for the preservation of its roads. This cemetery is built on the park plan, where drives also serve the purpose of walks.

The Tarvia acted as a binder, excluding water and frost, and giving to the surface a superior resistance to traffic.

The economy of these surfaces also soon become evident. And so in 1912 more Tarviated areas were laid. In 1913 there were further extensions, and over 6,000 gallons more were used in 1914.

After four years' experience, Mr. T. H. Little,

Assistant Secretary of the Mt. Hope Cemetery Association, wrote:

"We are pleased to say we have had no reason to change our opinion either as to our satisfaction with, or as to the result obtained from the use of Tarvia B."

Tarvia is a dense, tough coal tar preparation of great bonding power.

It makes roads automobile-proof, heavy-load-proof, water-proof and frost-proof.

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The treatment costs little and more than pays for itself by saving in annual maintenance.

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This Company has a corps of trained engineers and chemists who have given years of study to modern road problems. The advice of these men may be had for the asking by anyone interested.

If you will write to the nearest office regarding road problems and conditions in your vicinity, the matter will have prompt attention.

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ferred to it, did not act on this claim, and it has remained unsettled. The city and park board transferred the title of Forest Park to the board of education, and the cemetery board holds that it should be reimbursed for a portion of the money at least which it expended. The matter is now before the board of education.

Several monuments and parts of monuments were stolen recently from the Oakland Cemetery, St. Joseph, Mo.

The city of Carthage, Mo., is contemplating the purchase of Park Cemetery in that city. The price set by the directors of cemetery association is \$30,000. The city also plans to put the old portion of the cemetery on a perpetual care basis.

Dr. A. S. Soper, of Detroit, Mich., by an award of three arbitrators, will receive \$10,000 for four acres of land to be used for an extension of Windsor Grove Cemetery. The arbitrators were James Anderson, Henry Clay and James Oliver. The cemetery board had made an offer of \$7,500 for the land, but this amount was refused by the owner.

The officers of the new Robinson Cemetery Association, of Robinson, Ill., have contracted with Robert A. Koerner, of Terre Haute, to make a topographical survey of the grounds as a preliminary to the laying out of drives and platting the grounds.

The contract has been let for the new administration building to be built in the cemetery at Ashland, O. The building will be of brick, 25x30 feet, and the first floor will be used for administration purposes and also for a shelter house. The basement will be used as a tool room and storage place.

Amendments to the resolution passed by the city council some years ago fixing the height at which lot markers might be placed in Oakwood Cemetery, Dixon, Ill., at one inch above the ground were passed, increasing the height to three inches.

The Brookville Cemetery Association, of Brookville, Pa., recently held their seventh annual flower day at Bell Circle Hedge, where a program consisting of several musical numbers and addresses was enjoyed. The officers of the cemetery are W. H. Gray, president; G. W. Heber, secretary and general manager; and J. B. Henderson, treasurer.

A G. A. R. monument was unveiled recently on the G. A. R. plot in Ashland Cemetery, St. Joseph, Mo., under the auspices of Custer Post, No. 7, Department of Missouri. The monument was designed by R. M. Abercrombie, of the Abercrombie Stone Co., of St. Joseph, and the contract awarded to the Pfeiffer Stone Co., of that city. The pedestal is of gray Barre granite surmounted with a bronze figure of an infantryman at parade rest, which was designed and cast by W. H. Mullins Co., Salem, O. The monument was manufactured by Burton Preston, of Mansfield, O.

Cemetery Officers Elected.

The Eastern Cemetery Association, of Jeffersonville, Ky., has re-elected Charles A. Schimpff, president, and John Best, secretary and treasurer.

At the annual meeting of the Greenwood Cemetery Association, of South Superior, Wis., H. N. Rasmussen was re-elected president and H. C. Rasmussen secretary.

At the meeting of the stockholders of the new Mishawaka Lincoln Gardens Cemetery Association, of Mishawaka, Ind., the following eight directors of the association were elected: M. W. Mix, J. A. Herzog, A. S. Wincy, H. G. Eggleston, Charles W. Cole, Stanley McIntosh, Joseph Werwinski and John W. Schindler. Victor M. Cole reported that \$20,000 of the stock had been sold. An issue of \$50,000 was made and \$30,000 of this was offered for sale. Work will be started soon at the cemetery site and it is expected that before fall the grounds will be ready for burials.

Wm. A. Huffman has resigned as superintendent of cemeteries, Terre Haute, Ind., and Chas. E. Scott has been appointed in his place.

The St. Peter's Cemetery Association, of Quincy, Ill., has elected the following officers for the ensuing year: President and secretary, Father J. J. Driscoll; trustees, J. J. Shanahan, John A. Connery, W. J. Cunnane and John J. Ernst.

Harry M. Summers has been appointed to have charge of Diamond Grove Cemetery, Jacksonville, Ill., and will succeed Philip Grant. John E. Pires will succeed Newton Tribble as sexton of Jacksonville Cemetery.

At the meeting of the board of trustees of Woodland Cemetery, Ironton, O., Mr. Bixby was re-elected as secretary and Roy Haney as superintendent of the cemetery.

The Pecan Grove Cemetery Association, McKinney, Tex., has re-elected

Mrs. Sara Howell president and Mrs. F. B. Pope secretary.

At a meeting of the Stoutz Grove Cemetery Association, Danvers, Ill., the following officers were elected: President, Frank Vance; treasurer, O. P. Skaggs.

The Woodlawn Cemetery Association, of Green Bay, Wis., has re-elected Thomas Joannes, president and R. R. Campbell secretary. A total of \$3,767.60 was paid out for labor in improving the grounds.

New Cemeteries and Improvements.

Another cemetery for Mishawaka, Ind., has been projected. Frank J. Cosgrove, of South Bend, head of the movement, states that the new concern will be known as the Mishawaka Cemetery Company, and that 30 acres of land immediately east and adjoining the present cemetery have been purchased and will be laid out at once.

Calvary Cemetery, Hancock, Mich., is now open for interment. Thomas Perryman is president, and James A. Daley secretary and treasurer of the association.

The council of Racine, Wis., has decided to recommend the adoption of an ordinance providing for the issuance of \$10,000 for the improvement of Grace-land Cemetery.

The east wall of Oak Hill Cemetery, Livingston, Ill., is being rebuilt.

Work at Pine Hill Cemetery Park, Saginaw, Mich., is well under way. The plans call for the improving, grading and seeding of the ground between the west bluff and the stream which passes through the cemetery. Cement walks will intersect in the center near which a fountain will be built.

A water meter was recently placed in Riverside Cemetery, Kalamazoo, Mich.

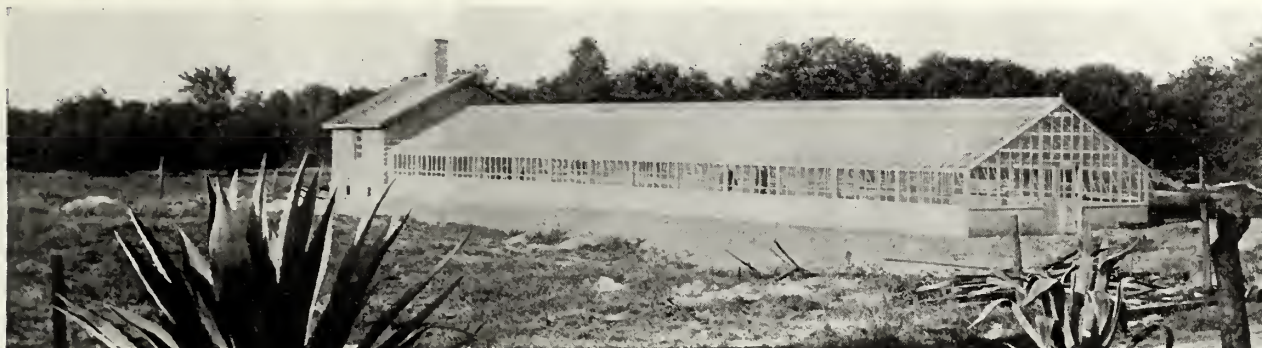
THE COVER ILLUSTRATION.

On the front cover of this issue is illustrated a particularly imposing style of modern cemetery entrance. This gateway was erected a few years ago at the main entrance to Forest Lawn Cemetery, Norfolk, Va. Its architecture is in keeping with the bold, graceful relief produced by the landscape effect of this burial ground and is admired by all who have seen it. Our illustration presents the center drive gate with two ornamental iron walk gates of similar design on either side of the approach, which forms a gradually widened driveway, with walks on both sides. These gates are hung from brick piers, capped with granite ornaments, and are over 15 feet high.

The main entrance, or drive gate, is 17 feet 6 inches wide, very massively built of 1-inch square wrought iron pickets, with 2½-inch channel rails. The pickets of both gates and fence have forged points and are spaced 6 inches on centers. Gates

are 13 feet 10 inches high at hinge sides, gradually sloping to the center, as plainly shown in the illustration. The heavy eye and socket hinge arrangement is secured by the lugs being built into the piers and so constructed as to distribute the weight, preventing any possibility of the gates sagging.

The pattern of these gates is a very modern and pleasing design, especially attractive owing to the filigree work which harmonizes nicely with this particular style. Walk gates on either side of large entrance gates are similar in design and construction, each having an ornamental iron arch of the same material. The Stewart Iron Works Co., of Cincinnati, Ohio, designed, built and erected these gates for the cemetery association, which doubtless, like others, have seen the wisdom of proper protection, which, from a business standpoint, is about as important as the beautifying of the grounds.



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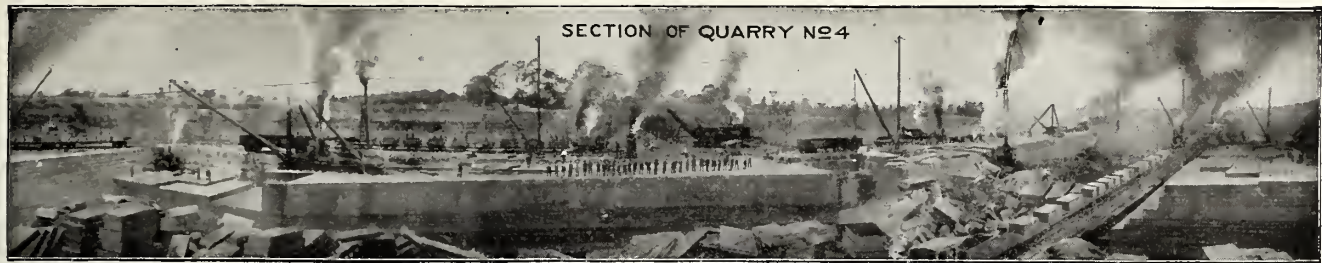
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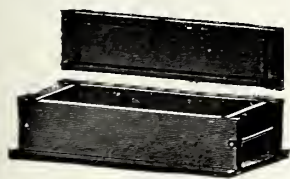
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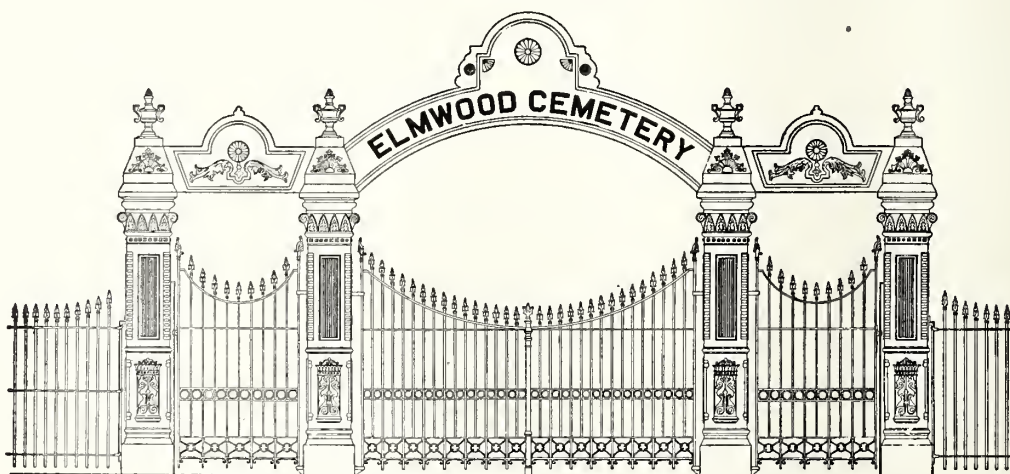
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Vol. XXV., No. 8

OCTOBER, 1915

SPECIAL FEATURES IN THIS ISSUE

Cost Accounting and Care Funds—Types of Parkways and Boulevards—
Deferred Payments on Lots—Planting Material for Semi-Arid Regions—
Relations of Undertaker and Cemetery—Screening Unsightly Objects



SMITHFIELD CEMETERY ENTRANCE GATES AND FENCE AT PITTSBURG, PA.
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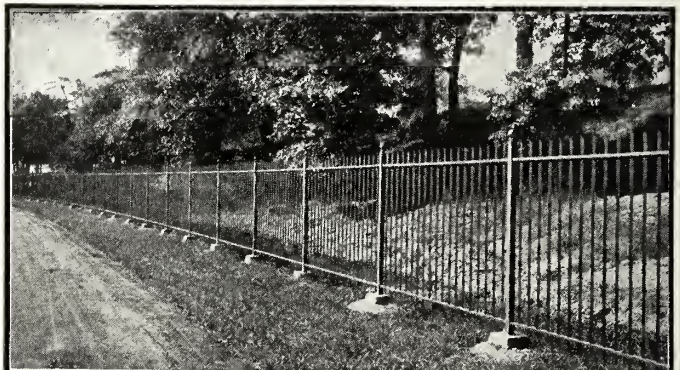
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EDITORIAL

OCTOBER, 1915

VOL. XXV No. 8

Progressive Conservation Measures in New York

The Constitutional Convention of the State of New York passed a conservation amendment September 2 that is of far-reaching importance to all who believe in progressive measures of forestry and the preservation of natural scenery and natural resources. The amendment, which will be submitted to the voters of the state on election day for final adoption, reaffirms the policy expressed by the Constitutional Convention of 1894, that "it is necessary for the health, safety and general advantage of the people of the state that the forest lands now owned by the state should be preserved intact as forest preserves." In addition, the new article provides for the development of all the natural resources of the state, and makes especial provision for the extension of the state's holdings in the Adirondack and Catskill parks and for the reforestation of the state's present holdings. The new department of conservation will be headed by nine commissioners, chosen one from each judicial district, who are to serve without salary. No person shall be eligible to serve as commissioner who is engaged in the lumber business in any forest preserve county or who is engaged in any industry that uses or is connected with hydraulic power. The primary object of the Conservation Committee was to take conservation out of politics. This is accomplished by creating the nine-headed commission, securing continuity of policy and creating a department which will survive all changes in administration, where each governor

can appoint two commissioners and no more. Thus permanency of personnel, state-wide representation and continuity of policy, so essential in the development of natural resources, are assured.

The new article endows the department it creates with broad powers. It is only by creating a deliberate body of nine men, chosen one from each judicial district of the state, that such powers can safely be granted. By specifying an unsalaried commission, professional office seekers are eliminated, and the services of men really interested in conservation—men whom no salary would attract—will be secured to the service of the state by the opportunity for public service it offers. The new department of conservation, as provided for in the amendment recently passed by the Constitutional Convention, is charged with the development and protection of all the natural resources of the state, the exclusive care, maintenance and administration of the forest preserve, and the protection and propagation of its fish and game.

By creating a constitutional department beyond the reach of changing administrations, a clear-cut plan for the proper use of the state's resources may be developed. In no other branch of the state's activity is the time element so important. Reforestation, for instance, must be planned for three years ahead. By providing a permanent board that can plan several years ahead, continued progress is guaranteed.

Suggesting a Domestic Animal Zoo

The following editorial that appeared in a recent issue of *Collier's Weekly* under the heading "A Real Live Idea" is calculated to stimulate thought among park superintendents who appreciate the advancing possibilities of practical service in the parks:

"A good Missourian, named John H. Curran, has had a letter printed in the St. Louis *Post-Dispatch* that deserves the attention of every city in our broad land. Mr. Curran refuses to be bluffed by the smelly part of the park which is ordinarily called the zoo, and wants a new deal, a 'Missouri Domestic Animal Zoo.' To him the sight of a mule colt is more interesting than an anteater or Gila monster, and a Berkshire weesqueal is more exciting than a grizzly. His argument is worth quoting:

"Instead of camels and buffalos, let us have a few Holstein,

Jersey and shorthorn cows and calves. Thousands of St. Louis people haven't seen a cow for years, and other thousands would not know a Hereford from a Red Polled animal. Let us have some chickens, turkeys, ducks and geese instead of cranes, storks and pelicans. Let the children learn about Rhode Island Reds, Black Minorcas, Buff Plymouth Rocks. A concrete example of the profit and pleasure of poultry raising would be worth much to any child of the city.'

"There's a lot in that idea. We talk 'back to the farm,' but do almost nothing to bring the farm vividly before city people. Country life is apt to be lonesome, and the town-bred youth is at great disadvantage because of his awkward ignorance of animals. It would be a great thing if every large city would replace its outfit of decaying curios with a first-class permanent exhibit of farm critters."

Editorial Notes

As a result of extensive tests during 1912, 1913 and 1914 with different insecticides, the entomologists of the United States Department of Agriculture have found that calcium arsenate, a new insecticide, gives very promising results in the control of certain insects that do damage by chewing on trees. Among the chewing insects against which the arsenate of calcium proved effective, in laboratory and field tests conducted at Benton Harbor, Mich., are the codling moth, the fall webworm, the tent caterpillar and the tussock moth. The details of the various experiments are published in Department Bulletin No. 278, "Miscellaneous Insecticide Investigations."

That the people of New York are thoroughly interested in forestry and other phases of conservation is evidenced by the widespread interest in the state-owned forest lands of the Adirondacks and Catskills and the idle forest lands in the other parts

of this state. This interest has been especially in evidence as a result of the excellent work which the Conservation Committee of the Constitutional Convention at Albany has been doing during the past few months. Several important county fairs have shown interest in an exhibit along forestry lines made by the State College of Forestry.

Of the 688,922,000 board feet of timber cut on the national forests during the fiscal year ended June 30, 1915, according to statistics just compiled by the United States Forest Service, 123,168,000 feet was taken under free-use permits given to settlers and others living in or near national forests. There were 40,000 free-use permittees, and the value of the timber they cut was \$206,464.13. The remainder, or 565,754,000 board feet, was cut under sales contracts, for the most part with lumber operators, but including 18,246,000 feet sold at cost to farmers and settlers.

ELIMINATING UNSIGHTLY OBJECTS IN CEMETERIES

Address before the Minneapolis Convention of the Association of American Cemetery Superintendents, by Carl E. Kern, Assistant Superintendent, Spring Grove Cemetery, Cincinnati, O.

Those of us who are actively engaged in developing and maintaining cemeteries at the present time are constantly striving to meet the esthetic taste of the public interested in our institutions. We are advancing rapidly and the teachings and doctrines of many of our public-spirited men and civic organizations which lead us on to live our lives under more beautiful conditions and attractive surroundings, have fallen upon a receptive public mind, and the result among many other notable achievements along these lines is our modern landscape or park-like cemetery. Almost with shame we look back to the days of our forefathers, when the cemetery was considered the most forlorn, neglected and shunned spot on earth in our communities, a place fit for nothing else than the "goblins" to roam about, the lonely owl to screech in, or the serpent to hiss among fallen tombstones, dry leaves and brush. It is almost impossible for us at this present day to form a picture of this kind in our minds, but in the course of time, with the ever-restless force of progress urging on, the day of light was not even to be denied our old cemeteries of former times. But between darkness and light there is the period of dawn, and during that very period of time many of our great cemeteries of today had their inception in the minds of our great men and pioneers in cemetery making. I wish to refer to Laurel Hill, near Philadelphia; Spring Grove, near Cincinnati; Mount Auburn, near Boston; Greenwood, at New York, and many others that followed. The basic principles of landscape gardening incorporated in these earlier modern cemeteries are still exemplary in every respect and are the greatest memorials in themselves to the courage and conviction of these men who dared to overthrow the old order of things relative to cemeteries in general.

This thought brings us back to the period when the taste of the owners of lots and graves was permitted to run along almost unrestricted lines. As our cemeteries grew in the course of time, the result and general appearance of our sections was a picture of chaotic conditions, enough to shock and offend the eye of any casual visitor. Such outgrowth as this even threatened to thwart the noble efforts of our landscape gardeners of those days to elevate the cemetery above the ordinary graveyard variety.

We have now arrived at the very point upon which I have been asked by your honorable president to dwell upon the subject, "Best Methods of Eliminating Unsightly Objects in Cemeteries Without Offense to Lot Owners." We may succeed in eliminating unsightly objects and remove them, but it is doubtful if it can be

done at all times without causing the anger and wrath of some obstinate lot owner to fall upon our heads, no matter how beneficial the improvement may be for the general good. As I have been informed, there are many cemeteries, started years ago, which need modern improvements, and the idea of a general clean-up and paint-up campaign which pervades so many of our cities in the spring of recent years could certainly also be extended to the sleeping places of the dead. Inasmuch as the cleaning up of a cemetery is a far more complicated affair than the cleaning up of our streets and back yards, it is but natural to think that such operations should be entirely in the hands of the superintendent and his cemetery employees. But first of all let us pave our way to reach the desired goal, lest we should meet with offense, to acquaint and educate the public to the ideas and principles of well cared for cemeteries. "Seeing is believing"; for instance, the superintendent should be able to secure the consent of a majority of lot owners of a smaller section, part of the expenses to be borne by them according to conditions to be remedied, but the larger portion of expenses would have to be met by the cemetery in most cases. Any steps taken to abolish and remove fences of the various kinds, copings, dilapidated hedges bounding lots, high markers, or to prohibit markers of the twin or triplet variety, or the remnants of old rusty settees, flower vases, both cast iron and terra cotta, and least of all the placing upon graves and lots of frames, either wood or iron, toys, shells or other monstrosities of all kinds which should have no place in a cemetery—any move made by cemetery officials in this direction can have no other than beneficial results in every respect. In carrying on such work the superintendent should always have full and unanimous support of the trustees or the Board of Directors, and, in order to still further increase his efficiency and lighten his task before him, a practical set of rules should be adopted covering the very points of question.

I wish but to remind you of the splendid set of rules which was recommended at a meeting by this association held at Boston in 1890, and which should be the guiding star for all cemeteries, both large and small, throughout the country. With your permission I will recite the most important ones bearing upon this subject:

Rule 2: The trustees desire to leave the improvement of lots as far as possible to the taste of the owners, but in justice to all, they reserve the right given them by law, to exclude or remove from any lot any headstone, monument or other structure, tree, plant or other object whatso-

ever, which may conflict with the regulations or which they shall consider injurious to the general appearance of the grounds, and particularly of adjoining lots.

Rule 3: Lot owners may have planting or other work done on their lots at their expense, upon application to the superintendent. No workmen other than employees of the cemetery will be admitted to the cemetery except for the purpose of setting work.

Rule 4: No iron or wire work, and no seats or vases will be allowed on lots, excepting by permission of the trustees, and when any article made of iron begins to rust the same shall be removed from the cemetery.

Rule 5: The trustees desire to encourage the planting of trees and shrubbery, but in order to protect the rights of all and secure the best general results, they require that such planting shall be done only in accordance with the directions of the superintendent of the cemetery.

Rule 6: No coping nor any kind of enclosure will be permitted. The boundaries of lots will be marked by corner stones, which will be set by the cemetery at the expense of the lot owner, with the centers upon the lines bounding the lot. Corner stones must not project above the ground and must not be altered or removed.

Rule 7: No lots shall be filled above the established grade.

Rule 10: Mounds over graves should be kept low, not exceeding four inches in height, and stone or other enclosures around graves will not be allowed.

Regulations of this kind are the children of necessity, a fact which was recognized by this association many years ago and carried into effect by all of the leading cemeteries. To cure an evil we must apply a specific, and no one is better qualified to propose and enforce such rules than the wide-awake superintendent, the man behind the gun. It would be most unwise to establish a uniform set of rules for all cemeteries, inasmuch as the customs and sentiment of the public vary a great deal in the different parts of the country with respect to cemetery matters. Cemeteries, as a rule, are in the business to stay, and it certainly should not be a difficult matter for any superintendent to prove to his Board of Directors or trustees, in passing similar regulations just referred to, that they soon become a matter of importance, even of great economic value. In banishing and removing structures and materials which are inconsistent with the proper keeping of the grounds of a cemetery, it is but logical to assume that we thereby cut down a considerable amount of expense for maintenance, which item should interest any of us. Any expenditures a cemetery

should elect to make for improvements of this kind is money well invested, not only for reasons of economical value, but also by the enhanced beauty and harmonious appearance of our grounds. Some of the most sweeping and effective rules that have served well in Spring Grove Cemetery to meet obstacles otherwise difficult to overcome, which demonstrate the liberal policy a cemetery should adopt in such matters:

1. The superintendent is authorized to take down and remove fences surrounding lots, and in exchange to give and set corner stones properly marked, also to grade and improve such lots free of expense to owners.

2. Where fences or other structures on any lot have, by reason of neglect, become objectionable in the judgment of the Board

of Directors, they are authorized to have the same removed, in which case the outline of the lot shall be preserved by corner stone, or proper land marks.

In order to combat the evil of insignificant vases and other metallic objects, such as figures of animals, etc., the following rule was established and enforced: No monument, grave mark, or other structure made of metallic substances, other than standard bronze, will be allowed upon lots in the cemetery, except urns, which must not be less than four feet wide at top and four feet high, and may be made of iron or stone; for the latter, three feet in diameter is permissible.

I cannot refrain from impressing upon you the importance of the judicious use of deciduous trees and shrubs, broad-leaved

evergreens and conifers to eliminate or screen from view some undesirable structure or else to modify and soften the bold outlines or unfortunate proportion of certain memorials.

In closing these remarks let me say that I am well aware of the broad nature of this subject and it is a difficult matter to evolve exact methods to meet conditions such as may exist in the various localities. Only by careful study and knowledge of the sentiment of the public in such matters can the superintendent formulate his course. Progress may be slow in the beginning, but with tireless efforts, tact and vigilance he can hope to attain and realize his ambition to elevate the cemetery to a place of perpetual attractiveness and beauty.

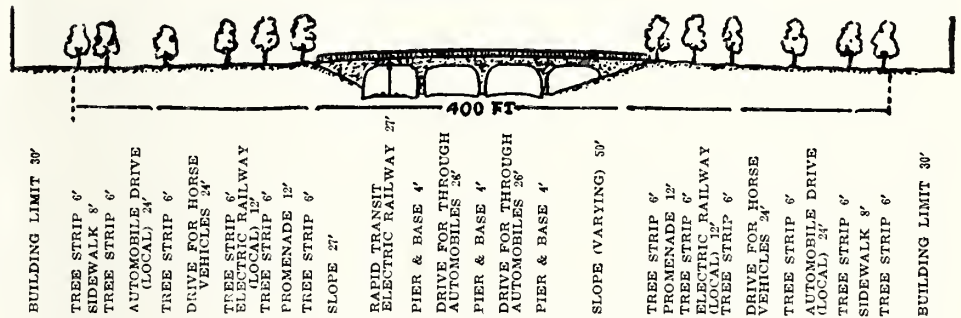
TYPES OF PARKWAYS AND BOULEVARDS

From a report on a proposed system of parks for Essex County, N. J., by Olmsted Brothers, Landscape Architects, Brookline, Mass.

Parkways may be classed under two heads—Formal Parkways or Boulevards, and Informal Parkways. The word Parkway is applied to both, but formal parkways are very generally known in this country as Boulevards, notwithstanding that in France, where the term originated, boulevards are either formal or informal, although formal boulevards are much more usual and far better known. The name was derived from the Dutch or German "bollwerk," the equivalent of the English "bulwark," meaning, in military engineering, an earthwork with a broad platform for artillery. It was often constructed immediately outside the old city wall, partly because there was not space on top of the wall for the increasingly large cannon and partly to protect the wall from being battered down by the enemies' artillery. As cities grew larger they extended beyond these circumferential fortifications and new fortifications were constructed further from the center. The very wide space occupied by the abandoned fortifications, being public land, was not infrequently laid out by engineers with a single or double avenue with gardens or grass plats with trees, and the surplus divided into lots and streets. The circumferential avenue thus originated on the boulevard (or bulwark) naturally became known generically by that designation. The very evident elegance and spaciousness which distinguished these improvements made them attractive for high-class residences, which in turn led to high land prices. Consequently, similar wide avenues came to be laid out in various directions in the city. The latter sort were encouraged by Napoleon to facilitate the use of artillery by his soldiers to suppress possible mobs hence his engineers laid them out wide and straight from one public building or square to another, an arrangement which had such obvious esthetic advantages that it was adopted by L'Enfant in preparing his plan for the city of Washington.

Formal boulevards are generally preferred to informal parkways by the real estate men because they require less land and because they combine easily with the usual rectangular subdivision with its gratifying implication of ultimate high city values of lots, and by the civil engineer

row, commonplace street parkways are not, as a rule, worth to a park commission what they cost, unless they are needed as approaches to or connections between parks or important public buildings and where wider boulevards cannot be afforded. If not so needed, a park commission



TYPICAL CROSS SECTION OF RAPID TRANSIT BOULEVARD, 400 FEET WIDE.

because they are easy in planning, draughting and surveying, and by both because the idea is common and comes to mind easily and avoids the subtleties of informal parkways.

In general, the formal boulevard is more appropriate amidst distinctly citified conditions, while the informal or landscape parkway is decidedly more pleasing and appropriate amidst suburban or rural surroundings, where it is often feasible to preserve beautiful groves, brooks, ponds or other picturesque landscape features.

Boulevards may be subdivided into three classes, namely, those having a single driveway, those having two driveways, and those having three driveways.

An ordinary street may become a boulevard of the first sort by simply putting it in charge of a park commission, who customarily adopt regulations excluding commercial traffic and provide and maintain a smooth driveway and a row of trees in each of the two sidewalks. Such street boulevards are rarely less than sixty feet wide, not infrequently eighty feet wide, but most often one hundred feet wide. Nar-

should, as a matter of park finances, be exceedingly cautious about accepting or creating such street-like boulevards, unless the whole cost of improvement and maintenance is to be collected from the owners of real estate directly benefited. Otherwise, money urgently needed for park purposes will have to be diverted to what is practically little more than street work. In fact, in a great majority of cases the principal motive of petitioners for boulevards one hundred feet or less in width is that of shifting the financial burden from themselves to the general tax levy.

The most luxurious type of single driveway boulevard, many examples of which exist, has a width of one hundred and fifty feet, of which fifty feet is driveway and the remainder in two borders each of fifty feet wide, upon each of which are two rows of trees with a paved walk between them. If houses are set well back and if there are comparatively few private drives crossing the grass borders, this form of boulevard is strikingly handsomer and more luxurious than the narrower street-like boulevards.

There has arisen, however, considerable opposition to this type of boulevard, especially where, as is generally the case, the lots are so narrow as to make private drives into each lot costly and objectionable or impracticable because of lack of space on the lot for a carriage turn, and where there is no alley or street at the rear of the lots, because of the excessive distance from the house to the drive of the boulevard. The frequency with which occupants of houses facing on this type of boulevard own automobiles, while it makes drive loops on the lots unnecessary, as the automobile can be easily backed in or out, results in cutting the grass strips across by private driveways at distressingly frequent intervals.

Boulevards of the second class, those having two driveways, have proved to be the most popular with people interested in adjoining real estate as owners or occupants. In this type the sidewalks are merely wide enough for a cement concrete walk and a row of trees in a turf strip, and each driveway is narrower than the one drive of the single drive type of boulevard. The wide space between the two driveways lends itself to a considerable variety of landscape gardening treatments, usually of a more strikingly ornamental sort than in the case of the sidewalk planting strips of the single drive boulevard, even if the latter is 150 feet wide.

While cases are not rare in which the width of this double drive type of boulevard is only 100 feet, the extreme narrowness of the drives, walks and planting strips has the unfortunate effect of making such a boulevard look like a big, handsome idea meanly carried out.

The width most frequently adopted for the double drive boulevard is 200 feet, although where land is expensive, and if houses are set back, a width of 150 feet is not infrequent and does very well, and even a width of only 120 feet is not at all bad, especially if the boulevard is gently curving.

Boulevards of the third class, those having three drives, are not very common, chiefly because they are necessarily wider and therefore take more land, and because they are more expensive to construct. A boulevard with three drives is certainly greatly to be preferred to one of the two driveway type, both because it provides the most suitable accommodation for the pleasure driving public and because of its marked dignity and symmetry of effect as seen by people in pleasure vehicles on the middle drive, especially in approaching a noble public building on axis. In this three drive type of boulevard the two outer drives are mainly for access to the houses facing upon the boulevard, and they relieve the central drive from even that small amount of commercial traffic which must be permitted in the cases of two drive and one drive boulevards, for the accommodation

of occupants of houses facing on them and not having an alley or street in the rear. The three drive boulevard is especially adapted for pleasure automobiles, as the central drive can be reserved exclusively for them. In fact, when the expense can be afforded, all or more grade crossings of the central drive can be avoided by depressing the central drive a few feet and carrying the cross roads over on bridges with rising grade approaches. With ample width to allow for easy side slopes the moderate depression of the central drive would not be disagreeable. This arrangement is better for neighboring real estate than the alternative of raising the central drive over the cross streets, because if raised, it obstructs the view from houses. The three drive type of boulevard has generally been made 300 feet wide.

A boulevard of this type usually has on each side of the wide middle drive a noticeably wide parking strip with two rows of trees, between which there may be a broad promenade on one strip and a broad bridle path on the other. Outside of each of these parking strips there is a side drive upon which delivery wagons and other commercial vehicles are allowed (if there is no other way for them to reach abutting private property). Outside of all on each side is the usual boulevard sidewalk with its row of trees. This type of boulevard is far superior to that having only two driveways, because the houses, while not necessarily wholly screened from view from the central drive, are rendered less obtrusive (as are also any needed poles for electric lighting wires), and because it is better for pleasure driving to have handsome flowering shrubbery, if there is any, and other ornamental features on both sides than to have them on one side only and houses on the other. This form of boulevard is sometimes to be preferred in case it forms a straight approach to a noble building or monument, as is often the case in Paris.

Informal parkways (meaning more or less informal), curvilinear pleasure traffic routes, especially such as include or adjoin pleasing natural landscape features, should be much more generally adopted in suburban and rural districts than has been the practice, because, in proportion to cost, they are capable of affording much more pleasure than are formal boulevards, both to those who pass along them and to those who live adjoining or near them. In fact, they frequently serve more or less completely as local parks.

Moreover, the fact that informal parkways are consistently laid out on curving lines enables the designer to appropriately and gracefully adjust them to topographical and property conditions better than can be done in the case of formal and mainly straight boulevards, thus creating a valuable element of beauty and securing economy of grading, and at the same time leaving the

adjoining real estate less damaged by excessive cuts and fills, when the parkway passes through sloping or rolling land.

Boulevards and parkways were well developed before the days of electric street railways and city rapid transit and before the days of bicycles, motorcycles and automobiles. Horse cars were used extensively, but were rigorously excluded from boulevards and parkways, partly because almost no one thought of riding in them simply for the pleasure of the ride and partly because the horse cars and track were inconvenient and ugly to have in a boulevard or parkway. As the horse cars were comparatively small and light and were run at about the same speed as most other commercial and pleasure horse vehicles, they could perfectly well be and consequently were run in the center of the driveway of any convenient street or avenue, and not in the boulevard, even though the boulevard might happen to be shorter and to have a better grade.

But the public have come to take a very different view of street railways. In fact, the convenience and comfort of electric cars have come to be so highly appreciated that their ugliness, noisiness and dangerousness are not allowed to weigh much against their desirability. In general, lots sell better and houses and flats rent better fronting on a wide avenue with an electric railway in it than on neighboring streets.

The electric street cars are big and heavy and can be run at far greater speed than the old horse cars. In fact, for economy of wages, electric cars must be big and must be run as fast as due regard for safety permits. The passengers are greatly benefited by the increased speed. But in the ordinary street the speed is much restricted by the interference of horse-drawn vehicles and slow motor trucks, which often take to the hard paved car track when the roadway is poor or crowded or encumbered with snow. Also regard for avoidance of collisions and running down people on foot interferes with speed. Consequently, there is a decided advantage in separating the tracks from the driveway. This can be, and is occasionally done very readily, where a wide street has no house lots on one side, as along a park or cemetery or institution grounds, by using the sidewalk space on that side for the car tracks. The same idea of separation is now accomplished not infrequently, although at considerable sacrifice of beauty, in a boulevard having a central parking space between two driveways by locating the electric railway tracks in this parking space, or, in a boulevard having three driveways, by placing the car tracks in the outer edges of the two parking strips.

It is not merely a great convenience to patrons of electric street cars to have the tracks thus separated from the ordinary street traffic, because of the increased speed safely attainable, but the opportunity there-

by arises of giving to the patrons of these electric street railways the enjoyment of the beauties of boulevards heretofore denied them and reserved to those comparatively few who live along the boulevard or who walked upon it or could afford to drive through it. True, the innovation will be very seriously objectionable to those who use the boulevard but are not using the electric railway. Comparing the number of those who drive or motor in the boulevard with the number who pass over it in electric cars, it can hardly be doubted that in some cases regard for the greatest good and pleasure of the greatest number would warrant the extra cost, the increased danger and the serious interference with the quiet enjoyment of the beauty of the boulevard by the pedestrians and visitors in automobiles, carriages and on bicycles, due to the introduction of the electric railway.

Of late years it has come to be considered that the luxury and pleasure of going over certain boulevards ought not to be confined to persons going to or from a park on foot or in horse-drawn vehicles, or in automobiles, but, in suitable cases, ought to be made available to those who use the electric street cars for business or social purposes, or merely for the pleasure of the ride, especially in hot weather, when the speed of electric street cars creates a gratefully cooling draft.

The only form of rapid transit a generation ago was the steam railroad with its dense smoke, showers of cinders, clouds of dust, deafening roar of running gear and of wheels on rails, ear-splitting steam whistle, clanging bell, and distractingly loud puffing at starting and on grades. No one thought such form of rapid transit permissible in a boulevard, or desirable near high-class residence property. Such houses as had to be built near it were built backing toward it, and parallel streets, whenever possible, were laid out the depth of a lot from the steam railway. Also the railroad right-of-way was left raw and rough and hideous after construction, and, except so far as nature was able to clothe the gash, so it remains on the greater part of most suburban steam railroads today. Usually, too, in the suburbs, the right-of-way is disgustingly littered with papers and rubbish. The result is that passengers in the trains are compelled to see the worst aspect of the worst part of nearly every settlement.

But the introduction of electricity in place of steam has greatly changed public opinion, and electric rapid transit is becoming admissible in front of houses.

In a few special cases it may be that a boulevard should be laid out with a reservation to be used for a rapid transit electric railway, which, when constructed, would be depressed in most places but raised in crossing valleys, thus doing away with all grade crossings. Where land is not too expensive the side slopes could be

made easier than $1\frac{1}{2}$ to 1 (the usual railroad slope). It would then be possible for the landscape gardener to make these slopes attractive. Vine clad, low fences would keep people off the tracks and at the same time screen from view the tracks and ballasted roadbed and the running gear of trains. If the electric power is conveyed in conduits and third rail no poles and wires would obtrude on the view. With electricity there would be no smoke or cinders and no puffing. With stone ballast, oiled, there would be no dust. In short, the only seriously objectionable circumstance would be the roar of the running gear and of wheels on rails. The latter can be very materially lessened by an automatic device for dropping a trifling amount of water on the rails and both by dwarf vine-clad walls on each side of the tracks to deflect the noise upward and by using only massive masonry or concrete instead of steel trusses for all needed bridges or for viaducts where the railroad could not be on earth fill. Where steel viaducts are necessary much of the racket of passing trains can be absorbed in a bed of gravel under the ties.

In some cases the two local tracks would be together, but usually one track would be on one side and the other on the other side of the rapid transit depression or embankment, so as to even up the advantages of accessibility to the adjoining private properties.

To properly accommodate automobiles there should either be one drive exclusively for automobiles wide enough ordinarily for four or five streams of automobiles, or there may be two equal but narrower ways exclusively for automobiles, one on each side of the central reservation. In this case they could be "one way" drives. In some cases it might be feasible to put a separate way for the through traffic automobiles next the fence of the depressed or elevated rapid transit electric railway, thus enabling all grade crossings of cross streets to be done away with. Branch drives would lead to the surface ways every mile or two. In most cases, however, owing to financial limitations, automobiles would be provided for merely by a special modification of the paving of one of the ordinary driveways or along one edge of each of two driveways.

For horse-drawn vehicles there should be either one broad and one narrow drive or two drives of equal breadth. In case there is one wide and one narrow drive, affording access to house lots, the wide one should be wide enough for standing vehicles next the curb and for two streams of slow-moving vehicles (one going each way) and for two streams of automobiles (one going each way), and this wide drive would be laid out with long curves and easy grades, while the narrow drive, being required only for access to lots and side streets, could curve more sharply and have

steeper grades, so as to more nearly fit the adjoining land and to save expense in grading. Its width would be merely sufficient for standing vehicles next the curb and for two streams of moving vehicles (one going each way). In case there are two drives of equal width, affording access to house lots and side streets, they could be made "one way" streets, with sufficient width for standing vehicles next the curb and one stream of slow-moving vehicles and one stream of automobiles. In the case of one wide and one narrow driveway all of the narrow and half the width of the wide drive could be of binding gravel or water bound macadam, to be kept firm in summer by watering, for the horse-drawn vehicles, while one-half only (say a width of 24 feet) of the wide drive would be of cement concrete, which is the cheapest hard paving suitable for automobiles, but which is not suitable for horse-drawn vehicles. In the case of two equal "one way" drives a strip 12 feet wide of cement concrete paving in the side of the drive, toward the middle of the parkway, would ordinarily be sufficient for automobiles, the remaining width being binding gravel or macadam.

There should be bicycle paths and, in the more rural parts of the boulevard, soft paths for horseback riding.

The sidewalks should normally have a paved walk between two rows of trees growing in wide turf strips, but would vary according to circumstances.

Lawns between the fence lines and buildings must be considered as hardly less essential than grass strips in the parkway itself. If they cannot be secured by means of restrictions they should be secured by taking the land, thus making them legally part of the parkway, as is the case in the city of Washington.

Advantage should be taken of varying conditions of topography, existing improvements and real estate boundaries to vary the design of the parkway from a set pattern.

A typical cross section for a modern rapid transit parkway is illustrated.

Many people may say at once that this ideal style of wide parkways with provision for rapid transit and local electric railways and special automobile roadways, and so on, is financially utterly impossible of attainment. Perhaps it is under present laws and customs. Nevertheless, it would be no more than reasonable prudence in laying out parkways in Essex County to consider its relation to the probable future requirements as to surface and rapid transit electric railways and through automobile traffic and to call the attention of the public to the need of changes in the constitution and laws of the state, and even in the interpretation of the laws by the courts, by means of which the county can gradually be made a more agreeable and a more efficient place to live in and to do business in.

COST ACCOUNTING AND CARE FUNDS

An address before the Association of American Cemetery Superintendents at Minneapolis, by Robinson Farmer, of the Southern Ohio Vault Co., Columbus, O.

Cost accounting and care funds: The need, purpose and requirements of a proper system of accounting cannot be better expressed than by quoting from an address by Allan Ripley Foote, president of the International Tax Association and commissioner of the Ohio State Board of Commerce, at the meeting of the American Association of Public Accountants at Denver, in October, 1909.

Accounting records should be a true exhibit: "Correct records of all transactions are a fundamental basis for the effective economic regulation of the affairs of every person, partnership, corporation and government.

"A correct tabulation is not in itself a correct record. A record, to be correct, must be kept in a way to show, by proper grouping, the true relation between every factor involved in costs of living, costs of distribution, costs of doing business, and in the final statement, showing the profit or loss for a fiscal year, or of a period of years.

"Just judgments are rendered only when based on a correct knowledge of facts.

Scientific accounting is shown by correct grouping: "There is a wide difference between honest accounting and scientific accounting. One may have a record that will honestly account for every dollar received and expended without having a record that will give any intelligent information regarding the true relation between all economic factors involved in statements of costs or of profits or losses.

"The record of all accounts should be intelligently grouped to show the economic effect of every factor essential to a true statement of costs or of profits or losses.

Unintelligent accounting works greater harm than dishonest accounting: "Far greater harm results from unintelligent than from dishonest accounting. In practical affairs, unintelligent accounting is the rule, dishonest accounting the exception. The effort to displace both of these forms of incorrect accounting by the adoption of scientific accounting meets with greater resistance from those who know their accounts are honestly kept than from those who know they are not keeping their accounts honestly. The normal man can be more easily persuaded that he should keep his accounts honestly than he can be brought to understand that it is not necessary for him to be dishonest in order to be entirely wrong.

"Scientific accounting safeguards honesty. It prevents dishonesty.

"Losses caused by ignorance are enormously greater than losses caused by dishonesty.

Incompetent accounting a menace to business: "Incompetent accounting is the cause of more failures than all other causes combined. It gives incorrect information as to costs of living, products and services, which leads to the acceptance of insufficient compensation, a course that must result in failure with a certainty from which there is no escape. No one can pay three dollars and sell for two dollars without impairing his capital. If he makes the transaction often enough, his entire capital will be exhausted, his failure will be announced.

"Incompetent accounting is the cause of retarded economic development. It fails to show where economies may be effected.

In scientific accounting lies economic salvation: "Moral law teaches honesty as a principle. Economic law requires honesty as a practice. Scientific accounting renders honesty possible.

Effective economic regulation: "There can be no scientific accounting without a grouping of items that will correctly show the relation to each other of every essential economic factor in all statements of costs of living, costs of products, and costs of services."

* * *

A scientific system of accounting is not only one that is mathematically correct, but one that will give the greatest amount of information in regard to the business, its condition and the causes that have increased or decreased its profits in any given year. No two cemetery associations, however similar, can be treated in exactly the same manner, except in a general way. (The organizations of the association differ, their restrictions are not the same, the laws of the states under which they operate vary, as does the topography of the land, climate and any number of other conditions.) This is especially true with regard to detailed cost systems, and this fact explains why the model systems devised by committees of various manufacturing associations have failed to be of any service to the majority of those for whom they were intended. I think this will answer the question so often asked relative to having a committee draft a uniform system of accounting. Profit by the experience of others—it cannot be done satisfactorily.

Let us consider, for a little while, in a general way, the essentials of Scientific Cost Accounting for Cemetery Associations, and the connection with the Reserve for Perpetual Care. For illustration, we will assume that we have an association duly organized—not for profit—that all lots are sold under perpetual care agreement. (By perpetual care we mean such

care as shall keep the grounds, roadways, etc., in a general neat and tidy condition.)

Special care may be provided for by endowment, or by paying a fixed sum annually, according to the special work to be done. "Special care" to include watering, extra cutting of grass, planting of flower beds, maintenance of monuments and mausoleums, etc.

The first essential of a cost system is accurate physical statistics. The grounds should be accurately surveyed and a map made of it, drawn to an exact scale. The area to be used for general purposes, such as the buildings at the entrance, containing the offices and reception rooms for the public, chapel, greenhouses, stables, etc., should be measured. A system of roadways should be outlined and the land to be used for them measured also. Knowing the cost of the whole plot and its areas in acres and odd square feet, the cost price of the land used for general purposes can be calculated. To find the cost of each lot it is not correct to divide the total cost of the property by the number of square feet into which it is divided. This would give the least desirable lots the same inventory value as those most desirable, such as corner lots, those situated on main driveways, and those that are most conveniently or advantageously located. The proper method is to take a plot of the property on which the selling price of each lot is marked, and from it to ascertain the selling price of the whole property. The proportion between this and the cost of the whole property will then be the proportion between the selling price and the cost of each lot. That is, if the total selling price is three times the total cost, the inventory or cost of each lot will be one-third of its selling price. If these are inventoried at the average cost of all the lots, an entirely false condition will be shown.

There are certain general improvements that have to be made before the land is ready to be subdivided and offered for sale. These comprise the leveling or grading of the whole plot, a general system of drainage, water mains, the erection of boundary fences, and any other improvements that affect the whole property. The cost of these is to be added to the original cost of the bare land. As the property will not develop itself without executive supervision, the general or administrative expense incurred during the process of development is also an addition to the original cost of the whole property.

An entry should be made: "General Public Land to Land. To charge off the cost of land to be used for general purposes."

Improved land: The value remaining in

the "Land Account" would then be the cost of the land that is to be subdivided and sold as lots or as single graves. This land should be subdivided into sections, each of which should be carefully measured. Only a very few sections should be improved and offered for sale at a time, the fewer the better, in the interest of accurate statistics. The cost of improving each section should be carefully kept account of.

An entry should be made: "Improved Land (Section —) to Land. For — square feet of land improved to put in condition for sale."

When the improvements are finished, "Improved Land Account" will show the cost of the land to be offered for sale, including the original cost of the land or ground. Knowing the exact area of the land improved, the cost per square foot can be easily ascertained.

Lot sales: When lots or single graves are sold the exact measurements are recorded. In closing the books the following entries should be made: "Lot Sales to Improved Land. — square feet at — per foot. Single Grave Sales to Improved Land. — square feet at — per foot. To charge sales with the cost of land sold."

When these entries are made, Land Account will represent the cost of the raw or unimproved land, and Improved Land Account the cost of the improved lands not yet sold. Each entry in the ledger in these two accounts should be supplemented by a quantity amount in the "Remarks" column, furnishing a running inventory of the acres and feet represented by cash balance. As there are 43,560 square feet in an acre, it is necessary to carry out the cost per square foot to several decimals of a cent, in order to be at all accurate.

Perpetual care reserve: Knowing the cost of the sales, it is next necessary to find the net selling price realized. The price realized is subject to reduction for the amount to be credited to the Perpetual Care Reserve. A journal entry should be made charging "Lot Sales" and "Single Grave Sales," and crediting "Reserve for Perpetual Care" with the amount. If the total is easily ascertainable, the entry need not be made until the end of the year.

In order to protect the lot owners, an amount equal to the credit of the reserve should be paid over to a trustee, who should invest it in interest-bearing securities. The amount thus paid over is charged to the trustee. When investments are made, the trustee is credited and "Care Fund Securities" charged. The care fund thus consists of two amounts, the investments and the uninvested cash in the hands of the trustees.

As the care fund, by this method, consists of contributions by actual lot owners, the interest on the fund is payable to the cemetery association, to be used in caring for the lots of these owners. As the prop-

erty is to be used as a park, at some future time, the general land must be treated as a wasting asset, since its value will eventually disappear, as far as the cemetery association is concerned. The reserve against this loss and the depreciation reserve against the buildings should provide a fund out of which capital can be repaid.

Miscellaneous income and expense: Separate accounts should be kept with each source of income—*e.g.*, Greenhouse Receipts (receipts from the sale of flowers and plants), charging greenhouse account with all labor, expense and supplies, so that the profit or loss can be accurately ascertained. The same method should be followed with "Grave Digging," "Burial Vaults," etc.

Depreciation: The moment a building is completed that moment does depreciation begin. What are some of the causes of depreciation? Employment or use; lapse of time; obsolescence; inadequacy; accidents.

There are a number of ways of treating depreciation, the most common being to charge off a fixed sum annually, so that at the end of the period of expected usefulness the value remaining will be the same as the scrap of residual value. A better way, I think, is to charge off the largest amount the first year with a decreasing amount each year thereafter during the life of the asset. The reason for this is, that as the asset grows older it is constantly requiring more and more to keep it in good and usable condition. In this way, as the charge for depreciation decreases, the charges for maintenance and repairs increase, making a more even charge against the revenues of operation, year by year.

Horses and wagons should be valued at the end of each year at what they are then worth. Small tools should be valued in the same manner as horses and wagons. They are apt to get lost, mislaid and are easily carried away.

Supplies and stores: A store and supply room should be provided and kept locked. As supplies are given out they should be kept account of and charged to the particular work for which they are to be used.

So far as possible, everything applicable to different departments or divisions of the work should be charged to the work directly (as we say in manufacturing, at the point of the tool), so as to leave the smallest possible amount to be charged to General Expense and Administration. Tools should be supplied and supplies given out from store room only in such quantity as necessary for the work or job under way.

Special care and endowments: Accurate records should be kept of the time and material used for each. They should be charged with their proper proportion of "Overhead" or "General Expense and Administration," as hereinafter explained, as it is necessary that such work be super-

vised and it also entails expense to keep proper record of these funds and to look after their investment.

Manner of apportioning "Overhead" or "General Expense and Administration": The most satisfactory manner is on the "Man Hour" basis. From your pay-rolls, at the close of the month, ascertain the total number of hours worked. Dividing the total of your "General Expense and Administration" by the total number of hours will give the charge per hour to be charged to each department or division of the work.

Manner of apportioning Labor and Expense between General Care and Perpetual Care: At the close of each year an inventory should be taken of improved land sold and unsold, also the area of drives and roadways in use. From this can be ascertained the proportion or percentage of improved land sold. Knowing this proportion or percentage, at the close of each month, for the ensuing year, we charge "Perpetual Care" with the proportion of labor and expense for care of grounds, drives and roadways, that the percentage of improved land sold bears to improved land unsold. As the income is received from "Care Fund Investments," it is credited to "Perpetual Care." In no other way is it possible to know that the amounts being set aside are sufficient to take care of the cemetery as a burial park after all the lots are sold and there is no other income. No one association can take the plan of another as a guide for the reason previously stated, as the requirements for perpetual care vary so largely, as to the local conditions of operation and administration.

The accounts "General Care" and "Perpetual Care" may be used as controlling accounts, and subsidiary accounts kept with the different items entering into same, as Watering, Sodding, Seeding, Weeding, etc.

The suggestion that a certain number of lots be reserved and sold last, to create a perpetual care fund, is a most vicious one and should never be considered, as too many things might occur to prevent the sale of such lots entirely, delay the sale for a very long time, or materially reduce the price at which they may eventually be sold.

Contingencies: The amount to be set aside for perpetual care should be ample—more than ordinarily required, based on earnings of not more than 3 per cent. None of us can tell what rate of interest to be obtained from gilt-edge investments will be 100 or even 50 years in the future, much less in perpetuity. We do know that the rate of interest on such investments has been gradually decreasing in the past. The only thing we can do, therefore, is to prepare for the future to the best of our ability. Another consideration, also, is the fact that standards or requirements of perpetual care are being raised higher and

higher each year. Ten years or so ago we had lots of "Stone Yards," but very few of our modern and beautiful "Burial Parks," for which we are indebted to the Association of American Cemetery Superintendents.

Sufficient income must be provided to replace all trees and shrubbery, as the time will come when their life will have been spent, to take care of unforeseen contingencies, such as damage to trees and shrubbery by lightning, tornado, flood or disease, and also damage of a similar nature to the drives and roadways, buildings, etc. Unless more than simply a sufficient income to cover the ordinary annual require-

PLANTING MATERIAL FOR THE SEMI-ARID REGIONS.

More and more we associate flowers with our departed friends. I am an old man and I well remember the funerals of sixty-five years ago. Everything was somber. The house was filled with the sickening odor of fresh paint and varnish. No flowers. A funeral seemed like celebrating life's great defeat.

Now it is the celebration of a victory. Flowers everywhere—emblems of the land where "everlasting spring abides and never withering flowers."

In the past we used to linger at the grave. How the falling of clods on the coffin made us shiver! Respect for the dead made us stay, in heat or cold, in sunshine or storm, till the last shovelful of earth was placed on the grave. Now our friends disappear slowly amid banks of flowers and we think of them triumphantly ushered into everlasting Spring. People want flowers for cemeteries and must and will have them if possible. They need perennials that can endure some neglect. In the vast semi-arid regions people have been sorely tried to find something that will endure heat and drought.

The flower has been found—the sun-loving and heat-loving flower.

Prof. J. J. Thomber, of the University

ments is provided, a time is more than apt to come in the near future when some accident or misfortune will befall you and your income will be insufficient. A financial or business depression may occur and your income will be cut off, for the present at least. Coming generations may demand more extensive general care; in fact, no one knows what the future may hold in store for us.

The indifference of people generally to those long since passed away is well known to those who are now or have attempted to collect from such families for care of lots, not sold under the present perpetual care plan.

of Arizona, writes that he has for some time been testing 100 varieties of the German iris and they are succeeding wonderfully. Hear him:

"The writer knows of plants that have grown for several years on dry Arizona mesas with only the scant rainfall. In the heavy and dry clay soil in the cemetery of one of our mining towns irises are much planted and succeed beyond expectation. When established there, they grow and blossom year after year with little care and they have come to be known to the children as Easter lilies. I know of no other flower that would thrive so well under the same trying conditions. It is only within the last few years that they have begun to receive the attention from florists they merit. The large number of varieties, their artistic qualities and their wide range of color insure for them a permanent place in our gardens as well as in the heart of the amateur."

In Nebraska there is a great iris garden, one of the largest in the world, that has 200,000 in 250 varieties. One summer we had but two inches of rain in the summer months, and thirty days when the mercury touched 100 degrees and over. Not a plant died; some were dug up in August from

ground as dry as an ash heap just from a furnace, and it was found that the roots had the power to gather and hold the moisture, and they were full, plump and fleshy and ready to grow with vigor when transplanted.

Some eighteen years ago Mr. Campbell, of St. Joseph, Mo., bought a small tree—the Pekenensis—which was the Chinese tree lilac. He writes that it is now eleven inches through and twenty-five feet tall. This tree is destined to be fifty feet tall and a foot in diameter.

Across the way from where I write there are four of these trees that are seven inches through and twenty feet tall. Like apples, they are best on alternate years. They are flooded with great trusses of snowy white and honey scented flowers. In blooming time there is the hum of the happy bees, while the air is loaded with fragrance. You can imagine the beauty of this tree when covered with flowers. As an individual tree on the lawn or lining a walk or driveway it cannot fail to draw the admiration of the beholder. It is a June bloomer and so always escapes the frost. It is one of the best drought resisters we have. In the Republican valley, near the 100th meridian, a few were planted, and through three consecutive years they endured intense heat and terrible drought without flinching, while six kinds of poplars were entirely killed. The year after these terrible ordeals they bloomed beautifully.

There is a Japanese tree lilac which created quite a furore in the East, bringing \$5 apiece. This produced greyish white flowers and scentless. We have had both growing side by side. The Japanese cannot endure the heat as well as the Chinese and the leaves get rusty. The Chinese has bright, clean foliage; the twigs are small and often of a pendulous habit and much more thrifty in growth.

York, Neb.

C. S. HARRISON.

LANDSCAPE WORK AT SAN DIEGO EXPOSITION



NATURAL PLANTING ON THE GROUNDS, SHOWING TYPE OF LAMP POST USED.

Editor PARK AND CEMETERY: Among the numerous impressions of splendid landscape and architectural features that were brought to my mind during the trip to and from the park superintendents' convention in San Francisco none promise to be more lasting nor of greater value than those of the San Diego Panama-California Exposition.

The splendid pictorial composition of architecture and landscape planting are not, I think, surpassed anywhere.

I am enclosing a few photos taken on the grounds which illustrate this better than words can describe.

When we are told that three years ago this place was a waste, without a single building, and with no foliage but that of



INFORMAL PLANTING AT BASE OF BUILDING.



HORTICULTURAL BUILDING, SAN DIEGO EXPOSITION.



FORMAL GARDEN.



HOW BUILDINGS ARE PLACED TO BE SEEN IN PERSPECTIVE.

sagebrush and low desert vegetation, it is hard to comprehend that this wonderful transformation was possible in such a short space of time.

The photographs illustrate the Horticultural

Building, with its interesting lath-covered construction; one of the formal gardens, the clever informal planting at base of buildings and bordering a lawn; how the buildings are placed to be seen in

perspective; natural planting surrounding the exposition, and the type of decorative lamp standard used on the grounds.

L. P. JENSEN,
St. Louis, Mo. Landscape Architect.

ORGANIZING and DEVELOPING a MODERN CEMETERY

By Sid J. Hare and S. Herbert Hare, Landscape Architects, Kansas City, Mo.

X. MANAGEMENT, MAINTENANCE AND REGULATIONS.

With the completion of the construction work and physical development of a cemetery come the problems of selling, of maintenance, and general administration. In some of the larger grounds these are by no means simple matters, and the proper conduct of the affairs requires an efficient organization of capable people. In a way, it might be compared to a large real estate development, where, in addition to the development and selling, the original promoter or owner is to retain a permanent interest in the land, and guarantee its upkeep forever, besides keeping a very complete set of records of everything which transpires on each lot for an indefinite term of years.

Perhaps the most important factor in the development is the superintendent. The duties of this official will vary according to the extent of the grounds under his charge, the size of the community to be served, and the assistants he has at his command. In general, he has charge of the upkeep of the grounds, the conduct of funerals, selling lots, and the keeping of certain portions of the records. A really successful superintendent must have a combination of personal qualifications and technical knowledge, not so easily found. In the first place, on account of the people with whom he deals and the conditions under which he deals with them, he should be a man of tact, refinement, and sympathetic understanding. He must be something of a salesman, and in addition have executive ability in directing subordinates and in planning work for the various seasons and weather conditions. Lastly, but not least, he must have knowledge in the fields of engineering and horticulture, for he will have to deal with road construction and

maintenance, water supply, drainage, foundations, and masonry construction in general, as well as the planting and care of ornamental trees and shrubs, lawns, and perhaps greenhouse management. It truly is a varied field of knowledge. That he be proficient in landscape design or a landscape architect cannot be expected any more than that he be an architect. Landscape architecture is a profession in itself, requiring years of special preparation and training, and while a few capable landscape architects may drift into executive positions such as park or cemetery management, the number will be comparatively small. Professional service in landscape design is easily obtainable, and it is more important that the superintendent be able to interpret and execute the plans and recommendations of the landscape architect than that he be a designer.

The interchange of ideas at meetings of the national, state or other organizations of cemetery superintendents has done much to develop a very efficient and broad-minded class of these men in our country, men who are doing a great work in the upbuilding of better cemeteries.

Certain rules and regulations are essential to the beauty and the success of cemeteries. As was stated once before, the rights of the individual must be secondary to the welfare of the majority. The principal features of the rules might be grouped under separate heads about as follows: The general regulations would include conditions as to the sale and transfer of lots or portions of lots, the restrictions in regard to railings, fences, copings, seats, or other constructions other than monuments or head markers; height of grave mounds, change in grade of lots,

and, of course, provision should be made for barring advertisements of all kinds. Under the head of "Monuments and Headmarkers" should be included the regulations as to the size or location of lots whereon monuments are permitted, the size and height of headmarkers allowed, and the materials and quality of construction required. Many cemeteries are limiting the materials to granite or bronze, marble being barred. There is a growing tendency toward restriction of the design of monuments and mausoleums, requiring the approval of the superintendent or a special committee. Here, as in real estate development, it is found that restrictions are essential to the maintenance of a high standard, and pay in the end. All foundations should be put in by the cemetery employees to insure good work and proper depth. The subject, "Funerals and Interments," includes the notices and permits required, and such regulations as to the time and conduct of funerals as the locality permits, rules as to the receiving tomb, and requirements for admission. The conduct of visitors, gathering of flowers, restrictions against dogs, and speed limits for vehicles form another group.

In no business are accurate accounts and records more important than in cemetery work. It is not only necessary to the proper conduct of the work to know accurately the costs of different forms of maintenance and improvements, but an absolute record of interments and of lot owners is essential—in fact, a sacred trust in the hands of the cemetery company. Several forms of book and card records are in use in the different cemeteries, all of which have their advantages.

Perpetual care—in other words, the es-

tablishment of an endowment fund, the income of which will maintain the land forever—is peculiar to what we call the modern cemetery, and is one of the most discussed problems.

There are three ways in which this can be provided. The most common perhaps is to set aside in trust a certain percentage (usually 10 to 20 per cent) of all the lot sales. This money is allowed to compound at 3 per cent interest or greater until the cemetery or certain portions of it are sold out. In the meantime, the maintenance has come from the general reserve fund of the cemetery. A second way is to set aside so many lots in each block, the sale of which will form a fund for maintenance. The other alternative is to make a fixed charge of so much per square foot of the land sold and include this in the price of the lot with the understanding that it is to be put in trust. This should, of course, be enough not only to cover the maintenance of this particular lot, but to include its proportion of roads, planting and parking space.

The principal objection to the first,

and, in fact, to the second, arrangement is that the price of lots is apt to fluctuate during a period of years, whereas the cost of maintenance is a fairly fixed charge, changing only with the cost of labor. To offset to some extent the advancing tendency in the cost of labor are mechanical improvements which make a day's work more effective.

While the change of the price of lots is usually an increase as the cemetery becomes older, there are many cases where the reverse is true and where the percentage for perpetual care originally fixed is not now adequate.

While it is not the intention to advocate the last named method, here, above all others, we feel it will be well to present a few figures and think it worth while to consider for a moment the problem from this standpoint. Park lands, that is, the developed city parks of medium acreage, under reasonable care and normal climatic conditions, require about \$100 per acre per annum for maintenance. Cemeteries, with considerably more road area, more plant-

ing and obstructions, will cost almost double this amount. Again, as has been pointed out before, about four-sevenths only of the total area of a cemetery is sold, the remainder being in roads, paths, parking and planting. Therefore, this four-sevenths must furnish the endowment for the entire area. At \$200 an acre, the annual upkeep would be four mills per square foot on the total area, or seven mills per square foot for the salable areas. Capitalizing seven mills at four per cent, the highest rate which can be expected, would entail an endowment charge of nearly 18 cents per square foot. This would no doubt be fully adequate. The compounding of this fund during a course of years would merely add a factor of safety, to cover any increased expense of maintenance in the future, or perhaps admit of a higher degree of maintenance than was otherwise contemplated. It is hardly necessary to say that with the responsibility resting upon the people handling this fund only the wisest and most conservative investments should be made. (*Concluded.*)

RELATIONS OF UNDERTAKER AND CEMETERY

An address before the Minneapolis Convention of the Association of American Cemetery Superintendents by J. Warren Roberts, Funeral Director.

The superintendent of cemeteries and the funeral director are today in the same class from the standpoint of public servants, and it is for our interests, as well as for the interest of the public for us to co-operate and work in harmony with each other in order to give the public the best service possible. The foundation and ground work of all business success today depends greatly upon organization.

In the first place we must have a definite plan to establish any business that is successful. I have taken the liberty of bringing such a plan or chart with me today. This chart as you see, deals with only two lines of business or professions, namely: the superintendent of cemeteries and the funeral director. This will enable me to point out to you more clearly the common ground upon which we meet, and should co-operate together. The big men in business today, those who get salaries rivaling that of the president of our country are those men who discover the laws or principles of business. The successful man lives in the main according to those laws, while the unsuccessful man will have none of them. He says success in business depends upon the qualities born in a man. Nobody can tell him how to run his business. Business is not yet a science, but it is rapidly approaching that condition, and we must admit that scientific training is a great power in the business world today.

In our particular lines of business and profession I believe organization can be

taken as the foundation of success—organization of your own individual cemetery and business methods, organization of your state superintendents, of cemeteries and also your national organization which brings you together as you are here today, which means education and higher ideals, and it is safe to say that each one of you will return to your home with a larger and broader view of the opportunities that are at your door. Thirty-three years ago in Rochester, N. Y., the National Funeral Directors' Association was organized. At that time there were no state regulations regarding embalmers. Today there are over 32,000 licensed embalmers in the United States and all under control of state boards in every state in the Union. Our National Committee on Transportation has been working with the National Baggage-men's Association for the past 15 years, and have succeeded in procuring a checking system for the transportation of dead bodies throughout the United States and Canada, and a body today is checked and routed over the same lines that the passenger ticket is sold, therefore avoiding any possibility of being transferred to the wrong line. Our National Committee on Burials at Sea have also been working for the past 15 years and today all large passenger steamship lines have embalmers and metallic caskets on board so that persons dying on board may be brought to their homes for burial.

The University of Minnesota has recently inaugurated a course of embalm-

ing, which places the matter on a better and more scientific basis, and which might well be copied by other State Universities for this reason, since July 1, 1914, the State Board of Health has permitted the University to assume entire charge of the examination for state licenses. The University of Minnesota being the first in the United States to establish such a course.

The Minnesota Funeral Directors' Association was organized 25 years ago, and we have had schools of instruction connected with our conventions until three years ago, when we succeeded in getting the University to establish a course with the understanding that our Association would stand back of it, financially, for the first two years, which we did, and if successful, the course would be established. So last year the permanent course was established and it is with a great deal of pride that I am able to tell you, gentlemen, that Minnesota has today the highest standard in my profession of any state in the Union, and this has been accomplished by organization.

The next quality I would mention is honesty. There is no greater asset in the business and professional world today than that of being honest, and nothing will gain the confidence of the public so quickly as honesty in all dealings.

The next three qualities I would mention as mental requirements for success. For superintendents of cemeteries: skill in landscape gardening and good roads; business tact and management,

and ability to make friends. For the funeral director: skill as an embalmer, business tact and management, and ability to make friends. Here we meet on common ground, in business tact and management and ability to make friends. On the subject of business tact and management is where we can co-operate and be in harmony with each other, and in so doing, give the public good service. I believe that any funeral, large or small, should be in charge of the superintendent of the cemetery as soon as it enters the cemetery. I think it the duty of the funeral director to arrange the bearers and place the casket in the chapel or over the grave, and also to wait upon the family, but that this should be done in harmony with the superintendent's arrangements, providing such superintendent can render efficient service. This, gentlemen, is the final act, and of very short duration. After the funeral director has rendered high class and satisfactory service for three or four days or perhaps a week to this family, and brings them to your cemetery where their dear ones are to be left in your care, it is then that you should realize the confidence and trust that is placed in you, and you should render the efficient and humble service that should be worthy of such a trust. The great can afford to be humble and the humble will soar to greatness. I believe that the superintendent of the cemetery and funeral director should co-operate when necessary in selling lots or single graves, also in the opening of graves and decoration, chapel service, cremation and vault service, but that there should be no financial transaction between them. In other words, I believe it would be better for the family to make their settlements with the superintendent of the cemetery, and not with the funeral director, and if such rules were made by the cemeteries so that the public would understand them, it would be much more satisfactory to both of us. There is no reason why the funeral director should have those accounts on his books. Another rule I believe all cemeteries should have is not to have burials on Sunday. This regulation coming from the cemeteries leaves no room for argument with the family. It is the only practical way to avoid Sunday funerals. The funeral directors have plenty of work to do on Sunday without funerals. In this city the Sunday funeral law has been in effect about 10 years, and there has never been any trouble or serious objection. Mr. Hobart, superintendent of Lakewood Cemetery stated to me that in that time only two requests have been made for Sunday service, and after having the rules explained to them, they accepted them very pleasantly, also that only two or three contagious cases were obliged to be cared for on Sunday.

The ability to make friends is a mental requirement that is up to each one of us as individuals. To put our efforts in the right direction, we will build and increase as sure as the night follows the day. Of whom or what should we be proud of if not of our friends?

The other field in which you are brought into is skill in landscape gardening and good roads. In this particular field science has played a very important part in the last 10 or 15 years, and there is a great opportunity for each and every one of you gentlemen. The character and standing of a community is often judged by the condition of its cemeteries, and there is no higher tribute can be paid a community than to say that its cemetery is second to none, and it is largely in the hands of the superintendent to make it so. Your influence upon the community and its civic organization is unlimited, and the high standard of your citizenship will be felt in every part of the community.

The next two qualities I would mention are physical requirements of success. For the superintendent of cemeteries: good location for cemetery, complete high grade chapel, crematory and vaults. For the funeral director: complete stock of high grade goods and rolling stock.

The first requirement, namely, location for the cemetery. It is possible that very few of you have had anything to do with the location of the large cemeteries in this country as they were naturally located before your time.

In regard to crematoriums, chapels and vaults, you have an unlimited influence in establishing and working out their details. I have visited many chapels throughout the United States and Canada, and I believe Lakewood Chapel is second to none in America, of which fact we are justly proud.

The next stone in our pyramid is service. What an important part this is, and how few there are who appreciate the value of giving good service. It is not how much you can do, but how well you do it. It would be possible to have all of the other qualities and still not render the highest class service, and how willing people are, to pay for good service. It is that they remember long after the amount of the bill has been forgotten. You will observe that I have said nothing in regard to money. This surely is an important consideration, but I believe it should not predominate. The man who has money and profit in mind all of the time, and loses sight of the other important things, is not successful to the degree that he otherwise would be. Success spells profit, but profit does not always spell success. It is up to the individual or association, the degree of success they attain.

In London, in 1665, during the great

plague, the burial of the dead was a most fearful and difficult task. Out of the population of 384,000 persons, 97,306 funerals took place during that year, and plague pits were established in districts around London to relieve the churchyards. In previous years there had been visitations of the plague: In 1592 there were 11,503 deaths with a population of 25,886; in 1593 there were 10,662 deaths with a population of 17,844; in 1603 there were 30,567 deaths with a population of 37,294. In a burial ground owned by an undertaker named Martin, which only measured 295 feet by 379 feet, 14,000 bodies were buried in ten years. In a chapel situated in St. Clements Lane, surrounded by houses, with a cellar 60 feet by 29 feet and 6 feet deep, 12,000 bodies were deposited and not one of them placed in a lead shell.

Parliament at last took notice of the existing conditions, and in March, 1842, appointed a committee to inquire into the whole subject. Reformation had, however, already begun, for before the burial act became a law private bills were passed enabling joint stock companies to provide burial grounds. The cemeteries as we know them today were established as follows: The Kensal Green Cemetery, 53 acres, consecrated November 2, 1832; the Norwood Cemetery, 40 acres, consecrated December 2, 1837; the London Necropolis Cemetery, 2,000 acres, opened January, 1855. There are now twenty-four cemeteries in the County of London. This will show you what extreme conditions existed in London at this early date and the extreme circumstances under which the dead were buried. And from that date and down through the ages the watchword has been progress.

Viewing the situation at the present time, it is remarkable how much progress is due to organization, and the doctrines have been so thoroughly taught that it has surpassed, I believe, the wildest expectations of our fathers. I cannot let this occasion pass without expressing my respect for the men of thirty-five and forty years ago, some of whom, thank God, we have still with us. We must acknowledge our debt of gratitude and hail them as men of foresight, of courage, of determination and perseverance, and they have builded a monument to themselves that will live on, years after they are gone. And to you who are now active in the work, let Progress be your slogan, and may you realize to the full extent the opportunities that are before you, and giving your best efforts, you will render a service that will live on after your years of usefulness have passed. The thought I wish to leave with you today I cannot express better than in the following lines:

There are loyal hearts, there are spirits brave,

There are souls that are pure and true:
Then give to the world the best you have
And the best will come back to you.

Give love, and love to your life will flow,
 A strength in your utmost need;
 Have faith, and a score of hearts will
 show
 Their faith in your word and deed.

Give truth, and your gift will be paid in
 kind,
 And honor will honor meet,
 And a smile that is sweet will surely find.
 A smile that is just as sweet.

Give pity and sorrow to those who mourn,
 You will gather in flowers again,
 The scattered seeds from your thoughts
 outborne,
 Though the sowing seemed but in vain.

For life is the mirror of king and slave,
 'Tis just what we are and do;
 Then give to the world the best you have
 And the best will come back to you.

TREE PLANTING IN GARY, IND.

When we think of Gary we think of men with dinner buckets, men with grime and soot on their faces, wearing overalls smeared with grease, ever hurrying to or from their work. We think of blast furnaces, coke ovens, soot, gas and dirt. Metallic things, big industries, and sand—all these pass through our mind when someone says Gary.

Ten years ago Gary was not even thought of, and now, if it were inhabited by the people who own Gary lots, it would be a city of 300,000. Street after street has been improved from the big steel mills, stretching for miles to the south and west. Tons of sand have been moved, dunes have been leveled, houses, churches, schools, stores, offices and clubs, cars, newspapers and jitney buses—all have come to stay. Every nationality is represented, both in language and in costume. Today Gary is a city—and what is more, Gary will continue to grow. Since May, 1906, Gary has accumulated an aggregate population of 35,000 inhabitants.

It was not until 1908 that trees were planted as permanent street trees, and then only a few streets were so honored. The real estate men of this city have done much to add to the beauty and comfort of the city, but today more trees are needed.

When Fort Wayne, the pioneer of the Indiana park movement, petitioned the legislature, an act was passed giving an appointed park board of cities of the second class power to acquire, lay out and improve land for public highways, parks and boulevards. Gary, having been made a city of the second class in May, 1915, selected its park commissioners, who in turn appointed a park engineer and a city forester.

A boulevard system of twenty-five miles has been planned, and trees, both of rapid and slow growth, are to be selected and planted this fall.

On the 3rd of September, 1915, the Gary Land Co., which is the land-holding concern for the United States Steel Corporation, presented to the city of Gary three parks, which until this month have been improved and maintained at the aggregate cost of \$300,000 and contain over forty acres of land.

For several years it has been the wish of the people of Gary to have a park on the lake front, but as no lands were accessible within the limits of the city, an act was passed by the last legislature permitting Gary to co-operate with Miller, a town lying north and east of Gary, and to appoint a joint park board. Miller having access to Lake Michigan, improvements have been started and trees will be planted this fall.

But who is to pay for these improvements? The system is this: For all improvements by the Park Board over a certain amount there are competitive bids, plans and specifications being furnished by the park commissioners. A tax is levied and collected at the rate of nine cents on each one hundred dollars of taxable property, special assessments being made in such a manner that the sections benefited pay for the improvement.

Gary is proud of its name, "The Steel City," and its men that make up the population of this city. There is a wonderful spirit here and people are helping vegetation to grow, in spite of adverse conditions. They appreciate trees and want more trees.

What have you to offer?

J. H. BARNETT, JR.

ADVANTAGES AND DISADVANTAGES OF DEFERRED PAYMENTS ON LOTS.

*By T. H. Little, Secretary-General Manager,
 Mt. Hope Cemetery, Chicago.*

I have assumed, that when the subject of this paper was assigned to me, it was intended that I should discuss it primarily from the standpoint of the vender, i. e., from a cemetery's viewpoint, as to the advantages or disadvantages of selling cemetery lots on deferred payments.

A close analysis shows that the advantages to be gained, or the disadvantages to be encountered in the application of this method of selling cemetery lots—or anything else for that matter—are in one form or another of a financial character, either directly or indirectly.

In the cemetery business as well as in any other, business and its presumable attendant profits are necessary and desirable, whether they are to be retained wholly for endowment purposes or to be used in part as a return upon invested capital; and it is rather an unusual condition when in either event they are thought to exceed the requirements. Therefore if the plan of selling on deferred payments is adopted in any business, it is usually because there is reason to believe, that by so doing the amount of profitable business can be increased; and a refusal to employ some form of

extending credit, is invariably because the profitableness of the plan is doubted, or rather because it has not occurred to, been suggested, or demonstrated in the individual case how it may be done profitably, and if so what safeguards are necessary and advisable. It is a distinct acknowledgment of the fact that credit must possess on the whole some predominating business virtue or expediency closely allied to profits, when we accept as an economic truth the fact, that the preponderance of the world's business is transacted through the medium of some form of credit. If this be so we become, or should become, vitally interested, provided we are not indifferent to our own interests, in the study of its adaptability or proper application to our particular business.

Fundamental principles underlying the successful employment of the extension of credit are primarily two: First, financial strength on the part of the creditor to carry or arrange for carrying such without undue embarrassment; Second, ability to protect oneself against or to minimize the chance of loss from such.

Assuming the ability on the part of cemeteries to successfully meet the first brings us to a consideration of the second condition; i. e., to the ability to protect themselves from financial loss when selling lots under such a plan. We know that if a lot were sold under a properly drawn contract providing forfeiture in the event that the terms of said contract were not complied with, that in the event of receiving the lot back in an unimpaired condition of usefulness, i. e., without interment thereon, any resultant loss would be of but a temporary nature or loss of anticipated profit unless due to lax business methods entirely. In the event of there being interments thereon and the former and future usefulness of the lot being impaired, unless it were possible to lawfully clear the lot of same, we find an amazing state of uncertainty, usually due to a lack of investigation, which many are reluctant to undertake because of a financial expense involved. Simply falling back and saying: "It can't be done" that Jones or Smith says: "It can't be done;" that the law permits the exercising of the right of burial but once, and there stopping, is not a proper investigation. They seem to forget that the bodies of deceased persons are constantly being moved, and without hesitation on their part, when the proper consent and orders are presented. The fact, that it is altogether probable, that a cemetery can protect itself in the event of such necessity, by employing similar methods embodied in their sales contract, seems to have been accepted or rejected without due investigation on their part. Simply because the method that may have been tried was or is found to be defective is no reason to assume that there can be none that are not. I am cognizant of the fact that laws differ too widely in the many states to expect me to attempt to offer a specific general sesame to this question for all those here represented. Our knowledge does not, however, extend to any instance where trouble has resulted to a cemetery from having acted upon the express terms and conditions of a definite and specific written contract entered into at the time of sale and authorizing the cemetery to take such action in the event of default, nor of any refusal, on the part of a court of last resort, to permit a cemetery to safeguard and protect its interest.

If therefore the ability to protect oneself can be established to their satisfaction there still is a further necessity to minimize the chance of loss or rather the loss of profit, which might result, if any considerable percentage of such sales should necessitate protecting the primary interest in the land itself. The sale of a lot through the medium of a contract is but half a sale; collecting is the other half, and a very important half indeed, for unless given proper attention it may prove the reef on which the ship of profits will be wrecked. The source of trouble or worry in collecting, which some look upon as a disadvantage, is in the majority of instances due either to a lack of proper appreciation of the importance that should always be attached to it and a corresponding lack of attention, or else to the need of readjusting the system employed. An expectation that accounts will or should, because of a contract, collect themselves, and allowing ourselves to imagine, that collecting is a mere detail to be left to the office boy to be taken care of and underserving of the same thought and application as selling or any other part of the business, is a vital mistake, for successful collecting is an art; and even granting, that we are fully protected in being able to re-

cover the lot for the debt, the object and desire is not to repossess the lot, but to collect the amount of the sale price, otherwise the object of the sale is defeated. It therefore behooves us to be sure, that any weakness or disadvantage we may encounter or imagine from this source is not attributable to our methods or lack of system before condemning the practice of selling on deferred payments on these grounds.

I consider it entirely unnecessary to dwell at any length upon the advantages from the selling end of the business, for it needs no argument of

mine, I am sure, to convince any practical, live, experienced cemetery salesman of the fact, that there are hundreds, possibly thousands, in their community, who can or could—if given the opportunity—purchase and pay for them on time contracts, who are not provident enough to ever save up for such a purchase as they might desire on a cash basis. Also that there are other hundreds, who do or might curtail their purchases, not because of lack of means, but because of what is termed ready money, or an unnecessary sacrifice involved in obtaining it at the particular time they

may be called upon to make the purchase. We consider it eminently proper and fitting for one to purchase a home to live in on such a plan—and more homes have been and are being acquired on such a plan than are or ever have been purchased outright for cash—why not a cemetery lot to be hurried in?

If a thorough investigation—a proper understanding—an intensive and constant application of selling, credit, and collection systems and contract rights leaves no doubt as to the preponderance of the advantages, why should we not profit by it?

BRAINS AND MUSCLE

*An address before the Minneapolis Convention of the A. A. C. S.
by W. N. Rudd, President Mt. Greenwood Cemetery, Chicago.*

Artemus Ward used to advertise a lecture on "Ten Minutes in China." He would then lecture on almost everything else but China, never touching on a point even remotely connected with that country and ending up by saying, "Oh! I was to lecture about 'Ten Minutes in China.' Well, I never was in China and I guess everybody in the audience knows more than I do about China, anyway." So if the present writer rambles far away from his subject he will at least have a good precedent.

It takes two things to run a modern cemetery properly—brains and muscle—and there must be a proper balance between them. Down Boston way they are said to worship brains, but even in other parts of the country (yes, I hear somebody say Chicago) there are cases where the brains part overbalances the muscle end, so as to make the combination topheavy—to say nothing of the reverse proposition. That is to say, the value of good brains is often nullified by the lack of the muscular force and drive necessary to "follow through" as the golfers put it.

Now, in addition to the muscles of his own which each of us is supposed to possess, we have to hire a lot of muscle—"Dutch muscle" to drop into slang. We would like to get a modicum of brains along with this kind of muscle, but too often "Brains they have nix."

To my notion one of the chief indications of constriction in the cranial cavity—and one frequently seen—is to attempt to buy labor under the market price (or to buy anything else for that matter) and expect to get, or at least retain anything but inferior quality. We all know that labor is our big operating cost and poor labor is the most wasteful, expensive and exasperating proposition one ever has to deal with. If we are paying under the market, the good man, if we get him at all, will leave in a short time to better himself, while the ordinary man does not care for the job and is not worried about being "fired," because he can, without trouble, get another job just as good at any time.

We have in the past tried three ways: paying under the market, paying regular rates and paying a little more, and have proved conclusively that we get the most

value in work accomplished when we pay the highest rates, and the least when we pay the lowest.

Good pay makes a man contented, and a contented gang will always do more and better work than the same men when discontented and sore. The cheap man, besides doing less and poorer work, requires more supervision, and this is a point often missed. Then too, the moral effect of having the men feel they are getting a square deal, and of your feeling you are giving them a square deal is not to be overlooked. It is often said that men can not stand prosperity—which is true in some cases, but the man who can not appreciate liberal treatment is a man no one should want. The sooner one finds out about men of this type and eliminates them from the force, the better.

The superintendent's brains are, or should be, largely of use in aiding the laborer to turn out the best possible quantity—quality results with his muscle. I use the word "aiding" deliberately in preference to "forcing." At an early day the writer conceived it his duty to be very conservative and careful in the purchase of tools, magnifying the first cost and not giving proper consideration to results, and keeping all tools in use until fairly worn out. Suspicions as to the correctness of this plan arose, especially as to using shovels shortened in the blade by wear. A pile of dirt was shoveled over with an old well-worn shovel and shoveled back with a newer, full sized one. This was repeated at intervals by the same man and by different men to eliminate the personal equation, until it became generally understood among the men that the "old man" was "nutty." An average of the time showed that the men were doing ten per cent less work with the worn shovels. At \$1.80 per day, this meant 18 cents per day lost. A shovel cost 90 cents and five days' loss, working with the old one, paid for a new one. We now have a collection of perfectly good shovels, except that they are worn back an inch, to sell to the junk man at frequent intervals.

Observation teaches that a man will often lose as much time unloading one car of sand with a common shovel as

would buy a sand shovel. Some men will use a sewer shovel for heavy digging in place of a spade and get much more work done. Put two men to unload a car of crushed stone, especially of the larger sizes—one with a round pointed shovel and the other with a square pointed. The round pointed fellow will almost earn the price of his shovel in a day, as compared with the other one.

We used to use the old, heavy, low wheel, eighteen-inch lawn mowers, because they were cheap, strong and durable. One of the light steel, twenty-one-inch mowers was put on trial, with considerable misgiving. In a few days there was a fist fight between two men who both wanted to use the big machine. That settled it. The old machines went to the junk man and each laborer thereafter had a chance to push a twenty-one-inch machine, as they liked it better and we certainly did. The effective cut of an eighteen-inch machine is not over fifteen inches—of a twenty-one-inch, eighteen inches, twenty per cent more. With labor at \$1.80 per day, this was 36 cents made for each day's run. One could hardly pay 36 cents per day for the sake of saving a \$6.50 mower. That would be worse than pawn-brokers' rates.

The advisability of purchasing a tool which will not be frequently used is a matter of simple mathematics. Five per cent interest on cost must be charged; if not frequently used ten per cent will cover depreciation (if tools are properly looked after) and another ten per cent will be liberal for storage, care and insurance, and loss or breakage, so we have an annual cost of 25 cents on a dollar tool. If the saving per day, multiplied by the number of days' use during the year amounts to, say, 30 cents, it is a good buy. If it amounts to less than 25 cents and other tools on hand can be made to do it, don't buy it.

Take the \$6.50 lawn mower spoken of above. Five per cent interest is 33 cents, fifty per cent depreciation, \$3.25, ten per cent care, etc., 65 cents—total annual cost, \$4.23. The twenty-one-inch machine figured the same way, first cost being \$10.50, will show an annual cost of \$6.83—\$2.60 more for the season. If we reduce our estimated saving by one-third, as a factor of safety, we still get

a gain of \$12.00 for an operating season of fifty days as against a total increased expense of \$2.60. It is, of course, understood that we all realize the wasteful folly of not keeping lawn mowers sharp and in good running condition at all times. We have gone into the mathematics of this matter somewhat fully because with modifications this same process applies to a thousand and one things about which we are called on to decide.

Returning again to the laborer—each man has a certain maximum of physical effort which he can put forth in a day without undue fatigue or strain. This varies among individuals according to their muscular power and according to their mental and nervous attributes. We can not with profit continuously drive men beyond this maximum. This is especially true in cemetery work where so many of the laborers are necessarily scattered over a large area. We can only increase the output, with each man working at his proper maximum, profitably, by increasing the effectiveness of each laborer.

The awkward man must be taught to handle himself and his tools in a better way so that the same effort on his part will produce better results. Each man must be provided with the tool best adapted to the work he is doing and so far as possible his individual preference must be considered. Each man should be put at the work for which he is best adapted and which (quite likely the same thing) he likes best.

Laborers have nerves. Constant nagging reduces some men to a state of sullen apathy and produces in others a state of nervous irritation, neither of which is conducive to maximum results. Every effort should be made to establish friendly relations (avoiding undue familiarity) and to keep the men contented and happy. The effectiveness of a good man is often injured by outside or home troubles. Friendly advice and assistance will pay good dividends in such cases.

It is, of course, understood that the superintendent will be constantly at work weeding out the dishonest, the unwilling, the unfit and especially the trouble maker.

Perhaps the greatest lack of brains that we, as cemetery managers can display, is to fail to enforce the established rules of the cemetery, and to even consent to their deliberate violation. These rules in all cases are presumably adopted, not arbitrarily, but after careful consideration and for the best interests of all. Their general enforcement is necessary to the welfare—practically to the existence—of the cemetery. What earthly justification either in common honesty or common sense can a man have while enforcing a rule generally, to allow specific violations by friends, or influential persons, or as is often the case, because one weakly wishes to avoid an argument or even a row? The person favored, way down in the bottom of his heart, has less respect for the superintendent or for the cemetery, while the other man who has, at some inconvenience to himself, scrupulously obeyed the rule, has a perfectly good cause for complaint.

Besides, the unfairness of such acts of weakness and moral cowardice, there is a grave danger to be feared. Our courts do not look with great favor on rules and restrictions as affecting individuals, and to stand the test of the courts, they must be not only reasonable, but they must be uniformly enforced.

It is certain that no court in any state will enforce a rule against a lot owner when evidence is produced that the management has deliberately allowed the same rule to be broken by another lot owner. Besides being weak, foolish and unfair, the practice involves possible grave dangers in the future.

Either enforce or rescind every rule.

If it is not feasible or possible to enforce a rule, cancel it. If the rule is right and necessary, then enforce it without fear or favor.

never sink. If "B. C." will pound his graves in thoroughly he will find no future trouble in this respect. E. E. HASKELL,

Supt., Mt. Hope Cemetery.
Mt. Hope, N. Y.

Lawn Making on New Section.

Editor Asked and Answered: In our cemetery we have about an acre in one corner which is to be laid out in lots this fall. The soil is light and sandy and is covered with a sod of tough, wiry grass, as well as with all manner of weeds. Now, the officers of the cemetery association (or some of them) say to cover the tract with black dirt, to the depth of three inches, on top of the sod and then seed it. I contend that the sod should first be ploughed up, then covered with black dirt, and lastly thoroughly disced, dragged and seeded. Will you kindly advise which is the best way?—F. D., Wis.

With the conditions described in the small cemetery, where a light soil is covered with a tough, wiry grass and weed combination, we should first advise that it be ploughed and dragged, removing as much of the growth as possible, then covered with black earth and fertilizer and thoroughly disced, dragged and seeded. After being ploughed and dragged it should be allowed to stand for several days, permitting the sun to dry and destroy as much of the present growth as is possible. The more of the present growth that is removed in this manner, the better the conditions will be for a fine new sod.

CLARK & PIKE,

Willoughby, O. Landscape Architects.

In the eradication of weeds and foreign grasses from areas to be utilized in laying out lawn spaces and cemetery lots the fundamental consideration should be the impairing of the growth of such vegetation as to insure its eventual destruction. The method of suffocation by burying with a covering of soil is quite generally resorted to and is a practice which, in a majority of instances, proves impractical. The advisability of resorting to such practice should be the exception rather than the rule, especially where contention with biennial and perennial vegetation is to be combated. It will be found that the vigor and stability of the root growth of such vegetation is of such magnitude that the resistance to natural growth offered by such treatment as a mere soil covering proves so strong that such treatment becomes insufficient to eliminate the trouble accruing from natural tendencies towards the establishment of such objectionable forms of vegetative growth. The established condition of the root system in the soil and the stored up vitality given to the growth of the plant by this condition are usually too persistent to be entirely held in check or eventually eradicated by such treatment, and one frequently finds the more vigorous growth crowding through the soil covering and making way for the development of the temporarily checked

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department

Sinking of Graves.

Editor Asked and Answered: The question relative to the best way to prevent graves from "sinking in," asked by B. C., of Ill., in the July PARK AND CEMETERY, is indeed a very simple one, and his desire for information is far from being ambiguous. Any cemetery employee familiar with interments knows that there are only two conditions to meet in overcoming this "sinking in." Up-to-date cemeteries nowadays prevail upon the funeral party to leave after the remains are lowered in the grave. The grave is then filled gradually

with two men compacting with rammers made for this purpose. The grave, if properly packed, will not "sink in" until the second condition asserts itself, which is the caving in of the box. After another operation as above there should never be any more "sinking in." In a great many instances, however, it does not follow that a grave must necessarily sink on the caving in of the box. Hardpan, for instance, will form a wall over a box and in some cases it is with difficulty that it can be broken through. In this particular kind of ground we often meet with graves that

plant life which eventually develops into matured form with its accompaniment of the natural facilities for seed or root distribution or propagation and the eventual increase of the primary trouble previously, but only temporarily, held in abeyance by the inadequate method of a soil covering of but a few inches in depth.

There is no method that will effectually result in the eradication of objectionable vegetation which has become established or which has previously found congenial environment for its growth and propagation on areas which are to be used for the growth of desirable vegetation exclusively, than a treatment of deep and thorough plowing of the soil of the area infested by the objectionable vegetation. This plowing serves two purposes: First, it loosens the compactness of the soil and disturbs the established growth of the vegetation of biennial and perennial habit while burying the seed of the annuals to the extent of greatly lessening the possibility of germination and growth; second, where the plowing is properly done it has a tendency to roll the soil in such a way as to bury the perenchymic growth of the vegetation, which eventually results in the smothering of the plants and their deterioration into eventual decay. The exposure of the roots to the action of the sun and air brought on by this method of plowing has its efficacious influence which is too familiar to be discussed here. The plowing should be done in dry weather preferably, as this will be of great assistance in the killing of the disturbed vegetation.

After a thorough plowing has been done it is advisable to give the area a good discing, which method has a tendency to chop up the rooted vegetation lying on or near the surface aside from cutting up and pulverizing the soil. In the process of discing it is advisable to cross-disc from different directions. This process of cross-discing takes longer for its performance, but its efficiency will more than compensate for the extra time spent in its performance.

When the discing is finished a harrowing should be done if necessary in order to bring the area to the desired topography and the surface sufficiently leveled to assume its natural contours. Where seeding is to be resorted to after the harrowing it is advisable to apply from two to four inches of well-pulverized soil, particularly of a loamy nature, that will afford the opportunity for a compaction of the surface and insure a quick hold for the germination of the seed. A rolling of the surface after seeding is quite often resorted to, but a practice which is not of absolute necessity. An essential requirement to insure successful results from seeding is the application of water, by spray particularly, should the work be done in dry weather. When the area is to be sodded it is not necessary to resort to any application of a surface covering of fine soil

unless in cases where the general condition of the ground takes on a cloddy character or is of a poorly enriched condition.

In the reclamation of areas previously infested with objectionable vegetation, particularly where seed sowing is to be resorted to in obtaining the desired vegetation, the quantity of seed is to be given consideration with reference to its application to the size of the ground surface. On such areas from three to four bushels of seed to the acre is to be recommended, and where areas of smaller size than an acre are to be sown, a proportionate quantity of seed can be used, figured on the basis of fourteen pounds of seed to the bushel.

ARTHUR H. HELDER,

Landscape Architect.

Kansas City, Mo.

The superintendent in question has a somewhat unsatisfactory problem to solve. It is a pity that the work of reclamation was not begun a couple of years sooner, even if it were only to cultivate the tract and raise a prosaic crop of potatoes that the necessary cultivation and fertilizing might to a certain extent civilize the soil. A covering of a foot or more of good soil might smother the objectionable weeds and grasses, but I fear that so thin a covering as is suggested would only rouse them to new life and vigor.

Half-way measures, especially in cemetery work, are rarely either satisfactory or economical. If this tract could be plowed late this fall and left in the furrow exposed to the frosts of winter, it doubtless would tend to kill out the present occupants of the soil and put it in better condition to be worked and seeded in the spring. If, however, there can be no delay, the more thoroughly the soil can be plowed, disced, dragged and raked, the better will be the results. If well-rotted manure can be worked in with the new coating of loam, and if some clayey subsoil is at hand to temper the present light and sandy earth, it will all help. The superintendent's ideas are correct, and the more thoroughly the other officers will permit him to carry them out the better will they all be pleased with the results after the matter of expense has been forgotten.

FRANK H. NUTTER,

Landscape Architect.

Minneapolis, Minn.

To make a good lawn on the acre tract in question, which is covered with a sod of tough, wiry grass, as well as with all manner of weeds, it is necessary that it be plowed thoroughly, so that the present surface or sod is well turned under. It should then be well harrowed and leveled and a substantial layer of top soil spread evenly over the ground and raked by hand until the surface is particularly smooth. It may then be seeded and rolled.

I have never found much gain in attempting to make a good, smooth lawn

from a poor, tough sod composed of wiry grass and weeds. The covering of the tract with black dirt on top of the old sod would act as a fertilizer to the present wiry grass and weeds mentioned above, and in time would grow through the soil and be more troublesome than ever.

O. T. CARPENTER,

Landscape Architect.

White Plains, N. Y.

In regard to the handling of this tract, I would advise that, first, the weeds now covering the ground be burned so as to destroy as many of the seeds as possible, because even if covered with top soil, these seeds will in the course of time get to the surface.

The next step would be to plow the tract to a depth of six or seven inches and work in with a disc-harrow plenty of manure rich in humus. Since the soil is light and sandy, it must be treated thus, so that it will the more readily retain moisture.

If the soil is very poor, gravelly or in any way unfit for the surface of a lawn, not less than three inches of good, rich soil should be put on before seeding.

The fact that the humus or manure is worked into the soil before the top soil is put on, as well as the fact that the sod is turned under, will assist greatly in forcing the grass roots to penetrate deeper into the soil and thereby be better able to withstand drought.

It seems to me that it would be a poor policy to cover the tract with top soil without plowing, as the weeds would continue to come up through and the new grass would tend to develop shallow roots, with a tendency to burn during droughts.

J. HARRY RICH,

Landscape Architect.

Syracuse, N. Y.

Cemetery Planners Wanted.

Editor Asked and Answered: Our city has charge of the cemeteries here, and has just purchased forty acres to add to them. I am interested in getting them to have it properly laid out, and would like to put them in touch with some good landscape architect who has had experience in this line. I have nothing to do with this, but thought that I might get someone to take the matter up with the Council and get things started along the right lines. I know they would want someone close at hand. Any information that you can give me will be appreciated.—W. H., Ia.

Will you kindly give me the name of someone who makes a business of platting cemeteries? We have recently purchased land for an addition to our cemetery here, and we desire to have it platted according to modern ideas, and would like to have the name of some firm or individual who does this kind of work.—W. S., Ill.

You will find on another page of this issue the advertisements of a number of landscape architects who specialize in this class of work.

Maintaining Single Grave Sections.

Editor Asked and Answered: I should like to inquire whether the single grave sections in other cemeteries are generally maintained on the "lawn plan" or not, or whether there is any difference between the way single graves and lots are maintained.—M. L. M., N. J.

In reference to maintenance of single graves, we sell so few of them that we make no distinction between the care of lots and single graves.

GEO. M. PAINTER,
Supt., Westminster Cemetery.
Philadelphia, Pa.

Single graves are of two classes: First, the high-class graves which are spaced as the graves on an ordinary family lot would be. These may be on certain lots in the fairly good sections with the same restrictions as to flat or low head marker and mound; no monuments to be allowed on any single grave or fractional lot.

Second, the less expensive single graves, which are put more compactly on cheaper lots or in rows of assorted sizes, subject to the same restrictions as to low or flat markers and mounds, so as to make the upkeep as small as possible.

In either case these graves, like every portion of a modern cemetery, should be sold for such a price as to include perpetual care. The cemetery company should supply a concrete marker with the interment number in case no head marker is supplied. Mounds and markers level with the ground will do much, not only for economy of maintenance, but in making the section less objectionable.

HARE & HARE,
Landscape Architects.

Kansas City, Mo.

In regard to the single grave section of our cemetery, we would say that it is maintained on the "lawn plan" and is given the same care that our best lots get, as our cemetery is wholly under perpetual care. I think you will find that the majority of cemeteries in the East are selling all graves under perpetual care and on the "lawn principle." We allow no mounds of any kind, but we do allow flowers to be planted on same.

HORACE A. DERRY,
Supt., Glenwood Cemetery.

Everett, Mass.

In respect to single grave sections in Forest Hills Cemetery, we have just opened a new section in which all the graves are sold with perpetual care of grass. This section is maintained on the lawn plan and the trees and shrubs are grouped as in the lot sections. The grass receives identically the same care as the lots. In all the older single grave sections single graves have been sold without perpetual care of the grass and the sections receive only a comparatively small amount of attention. In the new sections the grass is mowed regu-

larly and kept level as in the regular lot sections.

HENRY S. ADAMS,
Supt., Forest Hills Cemetery.
Jamaica Plains, Mass.

Our single grave sections receive the same general care as our best family lot sections, as we make no distinction between single graves and lots. Our entire ground has perpetual care, regardless of whether it is a single grave lot or the largest lot in the cemetery.

THEO. E. ANDERSON,
Supt., River View Cemetery.
Portland, Ore.



SINGLE GRAVE SECTION, MT. HOPE CEMETERY, JOPLIN, MO. PERPETUAL CARE; ALL MARKERS FLUSH WITH GROUND.

Our Costliest Private Mausoleums.

Editor Asked and Answered: Could you give me the names, location, sizes and approximate cost of the five or six largest mausoleums in this country, or whatever part of this information you may have? We have all the editions of PARK AND CEMETERY for the past ten years or more, and if you could give us the month and year in which the largest tombs may have been described, we would appreciate it very much.—M. J., Mo.

PARK AND CEMETERY has illustrated and described in years past many of the largest and most expensive private mausoleums that have been erected in this country, but they have appeared at such long intervals it would be impossible to refer you to all of them.

Following is, however, a summary of the leading statistics about a number of the costliest mausoleums that have been erected in this country:

Gates, Woodlawn Cemetery, New York City; erected by Stone, Gould & Farrington; cut by N. Pelaggi & Co., Northfield, Vt.; 54x35 feet; cost \$125,000.

Ehret, Woodlawn Cemetery, New York City; cost \$100,000; approximate ground dimensions, 37x37 feet.

William Bradley, Woodlawn Cemetery, New York City; erected by Harrison Granite Co., New York City; cut by Jones Bros. Co., Barre, Vt.; cost \$100,000; dimensions, 35-8x46-8x21-0 high.

Chisholm, Portland, Me.; erected by Flint

Granite Co., New York City; cut by Jones Bros. Co., Barre, Vt.; cost \$92,000; dimensions, 39-8x17-10x22-0 high.

Anthony N. Brady, Albany, N. Y.; erected by Flint Granite Co., New York City; cost \$85,000; 43-0x25-0x20-0 high.

Edward E. McCall, Albany, N. Y.; erected by Flint Granite Co., New York City; cost \$67,000; dimensions 42-6x20-0x24-6 high.

Poth, West Laurel Hill Cemetery, Philadelphia; cost about \$50,000; 27-0x34-6 in ground dimensions.

H. Messchert, West Laurel Hill, Philadelphia; cost \$25,000; dimensions, 16-6x23-0.

In Homewood Cemetery, Pittsburgh: "Eaton," 30-0x24-7; cost \$26,000; "Jennings," 29-6x16-10; cost \$20,000; "Pitcairn," 30-0x15-0; cost \$22,000.

Spring Grove Cemetery, Cincinnati, O.: "Groesbeck," 25x30 feet; cost \$25,000; "Fleischmann," 25x35 feet; cost \$35,000; "McDonald," 20x30 feet; cost \$30,000.

Andrews mausoleum, Lake View Cemetery, Cleveland, O.; erected by C. E. Taintor Granite Co., New York City; cost \$65,000; dimensions, 25-0x38-0x18-3; cut by Jones Bros. Co., Barre, Vt.

In Graceland Cemetery, Chicago: Potter Palmer, 26x40 feet; Martin Ryerson, 17x24 feet; "Wilke," 15x15 feet.

E. H. Gary mausoleum, Wheaton, Ill.; cut by Jones Bros. Co., Barre, Vt., for Charles G. Blake & Co., Chicago.

"Krueger," Newark, N. J.; cut by Jones Bros. Co. for George Brown, Newark, N. J.

Ventilated or Sealed Crypts?

Editor PARK AND CEMETERY: I would like to have discussed through your Asked and Answered columns as to whether crypts or catacombs in community or private mausoleums should be ventilated or made as near airtight as possible. I would be pleased to hear from other superintendents of cemeteries who have had practical experience in this often discussed subject. My experience of over thirty years in this work leads me to believe that crypts should be made as nearly airtight as possible.—J. A. W., Mich.

There seems to be a difference of opinion among experts on this subject. Although every patentee of a so-called ventilating device for community mausoleum crypts thinks he has it exactly right, none of them have been in use long enough to prove anything. We discussed this subject at great length several years ago and at that time collected all the information available from both cemetery people and mausoleum builders. You will find the beginning of this discussion in the 1912 proceedings of the Milwaukee convention of the Association of American Cemetery Superintendents. You will find a further continuation of it in the September and November issues of PARK AND CEMETERY for 1912, in the December issue for 1912, and in the April, November and December issues for 1913.

RIGHT TO PROHIBIT BURIAL IN UNPAID-FOR LOT.

The Alabama Court of Appeals recently decided that a cemetery company was liable for wrongful interference with a burial which was about to be made in a lot to which it was claimed no deed had been made because the lot had not been fully paid for. (Alexander vs. Union Cemetery Company, 69 Southern Reporter, 251.)

It appears that plaintiff had bargained for the lot and had held possession of it for years, having made burials in it and having fenced it. But, claiming that the lot had not been paid for, the manager of the cemetery directed the sexton to prevent interment of the body of plaintiff's granddaughter. Accordingly when the funeral party arrived at the grave, which had already been opened at plaintiff's instance, the sexton forbade interment, and burial was made elsewhere. Plaintiff then brought suit and was upheld by the courts in her claim that she was entitled to recover, not only the money damages actually sustained by her through the interference with the

burial, but "smart money" because of her embarrassment and grief occasioned by the cemetery company's acts. In response to the company's defense that no deed had been obtained, the Court of Appeals said:

"The purchaser of a lot in a public cemetery only acquires a privilege or license to make interment, and although a deed absolute in form is not given, the purchaser does not acquire title to the soil. Therefore, a formal deed is not necessary to confer exclusive right to use a lot in such cemetery for burial purposes, and it may be acquired by prescription or adverse possession. [That is, by long continued use showing recognition of ownership.]

The court refers to the fact that not only the manager of the cemetery directed that the burial be prevented in this case, but the stockholders at their next meeting approved the action. The circumstance was considered by the court as material on the question of the company's liability for punitive damages.

A. L. H. S.

THE COVER ILLUSTRATION.

A more desirable pair of entrance gates for a cemetery could hardly be designed than the magnificent piece of ornamental ironwork shown on the front cover of this issue. While the gates are not artistic to a point of being overdone, the scrollwork is of an attractive and pleasing design, giving the gates an appearance of substantial elegance which adds tone and dignity to the cemetery.

These gates were built by The Stewart Iron Works Co., Cincinnati, O., several years

ago. The photograph is a recent picture, which shows the gates to be in a splendid condition after years of service. The same design can be carried out, of course, in different sizes of material and the gates made any height or width desired. While our illustration shows granite piers, large square newel posts designed in harmony with the gates would add equally as much richness and dignity of tone to the entrance. Fence is made to match gates and the whole serves as a pleasing introduction to the beautiful grounds.



The year of 1914 is considered the year of the greatest development in Winnipeg's (Can.) park system, according to the report of the Public Parks Board, recently submitted for that year; not through the acquirement of additional properties, but because of the improvement of the properties already acquired, and the general desire of every member of the board to make the parks more useful and beneficial to the masses. A few of the special improvement features accomplished were the erection and completion of the Waddell fountain in Central Park, the reconstruction of the park, and the erection of a durable and handsome iron fence. In Assiniboine Park the first unit of the conservatory and service building was erected, and is now in operation. A large shelter building was erected in the picnic grounds. The pavilion annex was fitted with windows to replace the screens and a soda fountain installed. A splendid automatic water sup-

ply system was installed to provide for the requirements of the main pavilion and the soda fountain. A few of the main driveways were widened to take care of the growing traffic, while a considerable quantity of road oil was used to lay the dust.

The annual report of the South Park commissioners of Chicago for the fiscal year ending February 28, 1915, has been issued. Included in this report is a succinct statement from the general superintendent, supplemented with more detailed statements from the department heads. Financial statements are also submitted. During the year the first improvement of 6.58 miles of boulevards was completed, making the total length now fully improved 26.34 miles. The boulevards improved this year are from 65 to 100 feet in width, with driveways 40 feet wide in the wider boulevards and 28 feet in the narrower. With these comparatively narrow drives, wide planting spaces are secured, making much

better opportunity for the successful development of both trees and shrubbery therein. The improvement of Grant Park west of the Illinois Central Railroad and north of Jackson street was entered upon, most of the surfacing, underground work and some of the planting having been completed. In the area south of Grant Park, enclosed by breakwater last year, 440,736 cubic yards of filling were deposited, adding 12.12 acres to the made land south of Grant Park, now aggregating 35.31 acres. A 16-inch water main was laid from the park pumping station in Washington Park, through the Midway to Jackson Park, which greatly improves the water supply in the latter parks. An unusual number of trees and shrubs were planted during the year, largely because of the new boulevard improvements. The nursery contains 114,056 trees and shrubs valued at \$21,684, and there were 46,147 trees and shrubs planted from the nursery during the summer.

A relative of Daniel Erdmann, for many years of the Park Board and also former president for several terms, will erect a memorial fountain in his behalf in front of Mitchell Park, Milwaukee, Wis.

Clark Howard, a landscape architect of New York, has been engaged by Colonel Harts to assist in the preparation of plans for the development of the ground construction around the Lincoln memorial in West Potomac Park, Washington, D. C. By means of terraces the ground around the base of the memorial will be raised to the same level as the ground at the base of the Washington monument. The basic terrace will be circular in form. On its outer edge will be planted four concentric rows of trees, leaving a plateau in the center. In the center of that plateau will rise another terrace 500 feet in diameter. Whether this terrace shall rise gradually toward the base of the memorial or whether there shall be other terraces of varying heights is yet to be determined. From the main entrance to the memorial to the Washington monument will stretch a wide esplanade, flanked on each side by two rows of large shade trees, probably English elms, forming a beautiful vista between the structures.

The new art museum being erected in the Deshong Memorial Park, Chester, Pa., is nearing completion. The museum is being built with funds bequeathed by Alfred Odenheimer Deshong. The entire bequest—land, house and art objects—approximates more than \$500,000 in value.

The park at Fremont, Ill., has been furnished with sliding boards and swings by public-spirited citizens.

Joseph Roundey, of San Francisco, Cal., has suggested that the city purchase a tract of fifty-two acres fronting on Railroad and Paul avenues, to be developed into a park for people in that vicinity.

CEMETERY NOTES

A community mausoleum, known as West Lawn Mausoleum, was recently dedicated at West Lawn Cemetery, Omaha, Neb. The building was constructed by the Nebraska Mausoleum Co., of Omaha, and is 82x145 feet in dimension. It is Doric in style, of Colorado-Yule marble, and contains 650 crypts. A columbarium and a receiving vault also form part of the structure.

The Deer Park Cemetery Association, of Ottawa, Ill., recently issued a very interesting illustrated book containing several views in their cemetery and their charter and by-laws.

An interesting book on their charter, rules and regulations has been issued by St. Agnes Cemetery, Albany, N. Y.

Following are statistics taken from the report of the secretary of Spring Grove Cemetery, Cincinnati O., for the year ending September 30, 1915: Receipts: From sale of lots, \$60,324.23; interments and foundations, \$32,787.23; myrtle and special care accounts, \$29,365.82; trust fund account, \$34,688.90; total receipts, \$190,368.59; cash in bank and office, October 1, 1914, \$6,343.39; total receipts with balance, \$196,711.98. Disbursements: For lots purchased, \$2,219.10; interments and foundations, \$15,562.77; operation and maintenance, grounds, buildings, etc., \$46,217.60; trust fund account, \$34,875.23; total disbursements, \$187,094.23; cash balance on hand September 30, 1915, \$9,617.76; total with balance, \$196,711.98.

Reports at the meeting of the Springdale Cemetery Road Association, of Peoria, Ill., showed that the project is progressing and that a considerable sum has already been appropriated by the undertakers and monument men towards the sum of \$5,000 which is necessary for the work.

The Ferndale Cemetery Association that was being projected by two Kentucky lawyers at Rockford, Ill., will not be continued, owing to the fact that cemeteries cannot be objects of speculation or profit making in the state of Illinois.

Hugo Hahn, landscape architect of Bloomington, Ill., was in Iowa City, Ia., recently, preparatory to making plans and estimates of the cost of developing the new Iowa City Cemetery.

The revenues which have heretofore proved sufficient to properly care for Oak Ridge Cemetery, Springfield, Ill., are dwindling and will not continue many years. It has been suggested, therefore, that the city adopt a plan for a sinking fund that will increase in amount yearly until it becomes adequate to provide the needed revenue for the proper maintenance of the cemetery.

Cemetery Officers Elected.

Pleasant Hill Cemetery, of Lexington, Ill., has elected J. M. Ralston president of the Board of Trustees and D. L. Meeley secretary.

The following were re-elected on the Oakwood Cemetery Board, Alton, Ill.: E. C. James, J. T. King, W. W. Lowe, J. G. Seitz, W. H. Cartwright, L. M. Castle and R. L. Lowry.

The trustees of the Cemetery Trust Association, organized recently at Alton, Ill., have elected Edward P. Wade president of the association and Oliver S. Stowell secretary-treasurer.

At the annual meeting of the lot owners of the Alton City Cemetery, Alton, Ill., a new board of directors was elected as follows: H. O. Tonsor, Charles M. Levis, H. M. Schweppe, George McKinney and R. D. Watson.

The Board of Directors of Glen Cemetery, Paxton, Ill., has appointed Martin Engstrom as the new superintendent to succeed Edward Fox.

Reuben Weaver has been appointed superintendent of the Park Cemetery, of Greenfield, Ind. He succeeds his father, John Weaver.

New Cemeteries and Improvements.

At a recent meeting of the stockholders of the cemetery company which is developing Woodland Cemetery, two miles east of Indianapolis, Ind., a bond issue of \$63,000 was authorized and bonds to the amount of \$29,500 were subscribed for by the stockholders who attended the meeting. The officers are: President, A. E. Bradshaw; vice-president, J. P. Smith; secretary, C. W. Humphrey; treasurer, H. H. Woodsmall.

Plans have been made for the developing and the greater part of the grading of the newly acquired addition to Union Cemetery, Niles, O.

Maple Lawn Cemetery, of Thorntown, Ind., was recently greatly improved by removing several hundred yards of earth from the highest points and filling the lower places. The entire new addition has been graded and all sown in lawn grass. The northwest corner in the old addition, which was low, has been filled in and a new cement walk made from the concrete road to the drive at the small gate.

The contract for some additional drives in Woodlawn Cemetery, Champaign, Ill., to cost several thousand dollars, has been let to John W. Stipes.

A new front fence has been erected at the old cemetery of Loraine, Ill. It is of neat, heavy lawn wire fencing with steel posts and the end posts and gate posts are set in cement.

The Rankin Union Cemetery, of Danville, Ill., which was organized over two years ago and which was granted its charter September 30, 1913, has filed its papers with the county recorder. The first incorporators are W. L. Spoor, A. E. Schwartz, George Sloan, William Marshall and Robert Sloan.

A new stone gate was recently erected at the city cemetery of Alton, Ill.

Articles of incorporation were filed recently with the Secretary of State by the River View Cemetery Association of Firth, Bingham County, Idaho.

The Dudman Cemetery Association, of Carthage, Mo., has filed articles of incorporation with the following officers: W. B. Parker, president; J. C. Wyatt, secretary, and W. H. Dudman, treasurer.

Members of St. Boniface Catholic Congregation, of Edwardsville, Ill., took over a tract of land off Hillsboro road for a new cemetery.

City officials of Zanesville, O., are considering the purchase of the Moore farm of 160 acres, east of Greenwood Cemetery, to be used for cemetery purposes.

St. Anthony Cemetery Co., of Beaumont, Tex., was incorporated recently with a capital stock of \$1,000 by John F. Pipkin, E. J. Metzke, Jr., and A. E. Brulin.

The Doxey-Sayre Cemetery Association, of Sayre, Okla., has been incorporated by John C. Hendrix, J. B. Freeman, of Sayre, and W. M. Ewton, of Doxey.

The Roselawn Cemetery Association, of San Antonio, Tex., chartered with a capital stock of \$70,000, has acquired 218 acres on the Frio City road and announcement is made that the association contemplates a modern cemetery. Kenneth Wimer is president and Mr. McCullough is superintendent. The new organization is a re-organization of the old Roselawn association, taking over the holdings of the old concern, paying \$43,000 for them. The new association plans to raise a large perpetual care fund.

Plans for the new ornamental fence for St. Mary's Catholic Cemetery, of McHenry, Ill., have been drawn and work on the improvement will begin at an early date. The fence will be constructed of red paving brick and cement and will cost \$300. It will be broken every twenty-one feet by ornamental brick posts with cement balls on top.

The Gravel Lawn Cemetery Co. has been incorporated at Fortville, Ind., with a capital of \$12,000. The directors are Charley Hiday, A. J. Myers and A. L. Helms.

The Stouts Grove Cemetery Association, of Danvers, Ill., is making arrangements to improve and beautify the cemetery west of Danvers. A. H. Wilson, of Danvers, will superintend the work.

L. D. Vinnedge and a force of men are engaged in making improvements at Rose Hill Cemetery, Troy, O., which recently was taken over by the city.

Articles of incorporation for Salem Lu-

Tarvia

*Preserves Roads
Prevents Dust*



Roads that do not wear out—

*Phelps Grove, Springfield, Mo.
Constructed with "Tarvia X".*

MACADAM roads disintegrate by various processes. Traffic destroys the surface, pulverizing and loosening it so that it blows away in the form of dust. When the top coat of screenings is thus destroyed, the road has lost its roof, and water, instead of being shed quickly to the gutters, penetrates into the lower layers of larger stone and does endless damage.

Under heavy loads ordinary macadam undergoes a certain amount of internal movement which is very destructive. The stones below the surface, grinding against each other under great pressure, exert a mutually abrasive effect, resulting in a general disintegration and breaking-down.

The modern way to protect roads against such wear is to bond them with Tarvia.

Tarvia is a viscid compound of coal tar. It fills the voids between the stones and forms a tough, plastic matrix. On the Tarvia surface thus formed automobile wheels do not damage, since the tenacity of the Tarvia is great enough to resist the traffic.

Used in the interior of the road, Tarvia keeps the stone in its proper position and prevents internal shifting, rubbing and grinding. These two results of the use of Tarvia bring about great economies in maintenance.

A tarviated road lasts so much longer and needs so little care that the cost of Tarvia is more than compensated for.

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THE PATERSON MFG. CO., Limited: Montreal Toronto Winnipeg Vancouver St. John, N. B. Halifax, N. S. Sydney, N. S.



theran Cemetery Association, of Princeton, Ind., were filed recently. The articles are signed by H. M. Gast, Willis Florence, A. G. Fraser, W. L. Gast and J. C. Scott.

Georgetown Cemetery Association, of Pottsboro, Grayson County, Tex., has been incorporated by Isaac Clement, W. H. Sharp and E. A. Wright.

A viaduct has been constructed in Crystal Springs Cemetery, Benton Harbor, Mich. The structure connects the two sections of the cemetery, separated by a valley, and was designed by City Engineer Wightman. It is over 100 feet long and cost \$5,000. It is the plan of the board to retain the south section of Crystal Springs exclusively for perpetual care lots.

Plans are under way to incorporate the Emmanuel Cemetery Association at Bluffton, Ind., and a complete plat of the grounds has been prepared. The trustees of the present association are J. C. Raber, William Hoover, Samuel Rarick, and Joseph McClure.

The receiving vault at the Pleasant Hill Cemetery, Bloomington, Ill., is now completed and ready for use.

The Shiloh Cemetery Association, Hopedale, Ill., has been incorporated by John Weimeier, J. H. Henderson, W. E. Fleniken, Jacob Thomas and others.

Grading has been begun on the new addition to Monmouth Cemetery, Monmouth, Ill.

The Cropsey Cemetery, McDowell, Ill., has been cleaned up and put into good condition.

The Dupont Cemetery Association was recently incorporated at Dupont, Ind., by S. E. O'Neal, P. A. Graston and V. Shepherd.

The Cemetery Association, of DeKalb, Ill., has relaid the stone walk along the front of the grounds and has cemented the outside and marked it off in imitation of stone.

Green Park Cemetery Association, Portland, Ind., is contemplating the platting and draining of $4\frac{1}{2}$ additional acres this fall.

The new Riverside Park Cemetery, at Spokane, Wash., was opened some time in September. The cemetery contains seventy acres of land, which was developed according to plans prepared by Mr. Babcock and Frank B. Gibson, of Los Angeles, Cal. The ground lies among sloping hills and the native pines add much to the natural beauty of the place. The scheme of roads is worked out in the form of clover leaves, making the various plots of ground circular or oblong. The plan provides that every burial lot will be square with the compass and every grave will run east or west. The cemetery will be maintained on the lawn park plan. J. D. Sherwood is president, and W. A. Corey secretary of the company.

E. C. Boyd, of Chicago, has purchased a

237-acre farm near Rockford, Ill., where he will establish a cemetery. The price of the farm was \$35,500.

An organization has been formed at Sulphur Springs, Ark., for the care of Butler Creek Cemetery. J. M. Jones was chosen secretary.

A new cemetery will soon be opened at Maddock, N. D.

The city of Neenah, Wis., will appropriate \$2,000 each year for the improvement of its cemetery.

The new addition to Oak Grove Cemetery, Washington, Ind., is being developed and the grounds will soon be opened for interments.

It is proposed to make the driveway at the entrance of Oak Grove Cemetery, Hillsboro, Ill., circle around the soldiers' monument and to make the gates leading into the cemetery west of the soldiers' monument instead of south of it, as it is now located. The officials are also planning to build a new fence around the cemetery. Concrete posts with woven wire will be used.

The Ferndale Cemetery Association has been incorporated at Wyandotte, Mich., with a capital stock of \$162,500.

The cemetery of the First Presbyterian Church, of Chili, N. Y., has been generally improved. The old wooden fence in front of the grounds has been removed and an iron one erected in its place.

Work on the Pine Hill Cemetery park at Cheboygan, Mich., will be started very soon. Cement walks will intersect in the center, near which a beautiful fountain will be built. Flower beds will be laid out and each lodge in the city will have its own flower bed.

Mount Holly Cemetery, Little Rock, Ark., was recently cleaned up and improved.

The Brethren denomination, of Leeton, Mo., which has maintained a cemetery, offers to turn it over to the town if arrangements are made to properly care for it.

Plans have been completed for the improvement of the Sixth street tract known as the old cemetery, of Newark, O., which will conform in every way with the decision of the Supreme Court which gave the city title to the property so long as it was used as a cemetery. Ornamental gate posts will be placed beside each of the walks entering the property.

A Ladies' Cemetery Association has been organized at South Henderson, Ill.

W. H. Sloan, superintendent of Riverside Cemetery, Three Rivers, Mich., recently erected cement foundations throughout the grounds for the iron seats.

The paving of High street from Main street to the cemetery, Des Moines, Ia., was discussed at a recent meeting of the Commercial Club, and a committee was appointed to lay the matter before the town council.

An eighty-acre tract of land, lying to the west of Waukegan, Ill., and yet within the

corporate limits of Waukegan, is being purchased by four Catholic churches of Waukegan and North Chicago for cemetery purposes.

The new subdivision to Green Mount Cemetery, Belleville, Ill., is being improved. The ground has been platted and the entire tract is being tile-drained. Concrete curbing and gutters are being built and driveways constructed.

A delegation of women headed by Mrs. Tom Barker appeared before the mayor and city commissioners of Kansas City, Kas., recently to ask that \$20,000 be included in the budget of city expenses for 1916 for the improvement of Oak Grove Cemetery. This cemetery was taken for a park by the city several years ago.

Lincoln Gardens Cemetery Association has been incorporated at Mishawaka, Ind., with a capital of \$50,000, by M. W. Mix, J. A. Herzog and C. W. Cole.

The Golden Rule Cemetery Association has been incorporated at Centralia, Ill., by S. G. Holcomb, J. L. Davis and N. T. Rude.

The Sparks Cemetery Association was incorporated recently at Easton, Kans. with no capital.

The Hillside Cemetery Association, of Columbus, Wis., has purchased a sixteen-acre addition to the cemetery, of which only a portion is to be developed at once, although the landscape plan for the entire tract has been made by E. H. Niles, of Oconomowoc, Wis.

The trustees of Cedar Bluff Cemetery, Rockford, Ill., recently secured a tract of land east of the original cemetery, which is now being improved and developed. A nursery was purchased and shrubs, trees and flowers have been set under the direction of an experienced landscape architect. J. H. Sabin has charge of the surveying of the ground and Mr. Westphal is superintending the improvement work. Robert Trigg is president of the association.

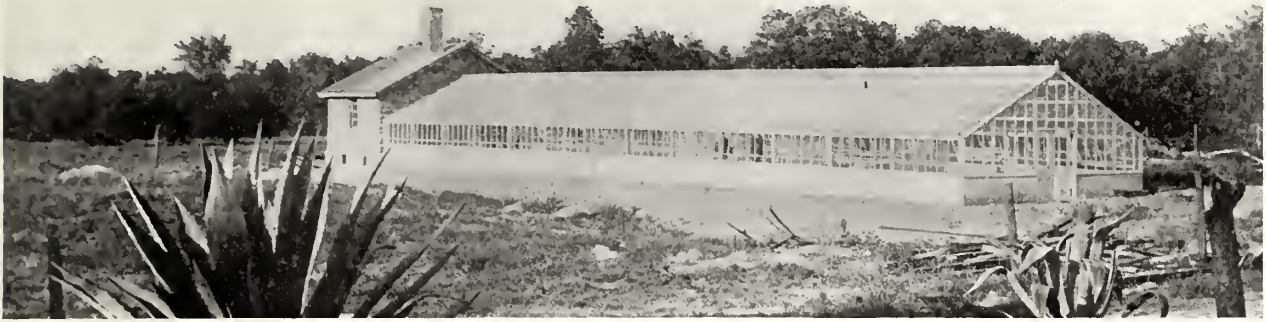
Greenwood Cemetery Association, of St. Clair County, East St. Louis, Ill., has been incorporated with a capital of \$10,000 by W. K. Cannady, Thomas J. Healy and Maurice V. Joyce.

Articles incorporating the Union Cemetery Association of Mt. Horeb, Wis., have been filed with the register of deeds.

Work has been commenced on the ten-acre tract purchased for Oakhurst Cemetery, Whitehall, Mich.

The new Murrayville (Ill.) village cemetery of eight acres will cost the town \$1,980. The village will soon have two or three acres surveyed and laid out in burial lots.

A movement has been recently started for the reorganization of the Blue Mound Cemetery, of Cooksville, Ill. A meeting was recently held in Cooksville, at which time a new constitution and by-laws were adopted and plans made to incorporate under the name of the Blue Mound Cemetery Association.



General Purpose House at Oak Forest Cemetery

OAK Forest Cemetery is located at Hinsdale, Ill. Here is a greenhouse built of the best of materials and in the best way possible to meet the general purposes for which it was intended. No fuss and feathers—just a plain, practical proposition.

It is iron frame. Its cost is reasonable, considering the quality of the work and the fact that built as it is built, it ought to last half a century or more.

One we built over thirty-eight years ago, at Columbus, Ohio, for the State University, is still in surprisingly good condition.

If that house has lasted thirty-eight years, our present ones—the way we build them now-a-days—ought to last twice as long, if given even half-way care.

If you have a limited amount to spend and want to make it buy a greenhouse that will continue to continue satisfactory for you in the years to come—then we should like to correspond with you; or if you desire it, come and talk the matter over.

Our catalog you are welcome to.

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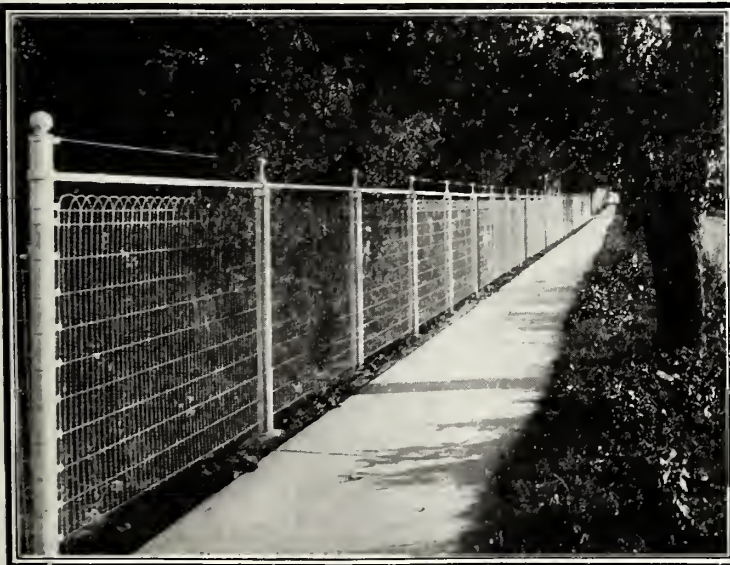
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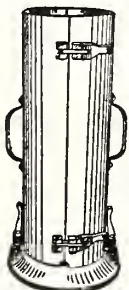
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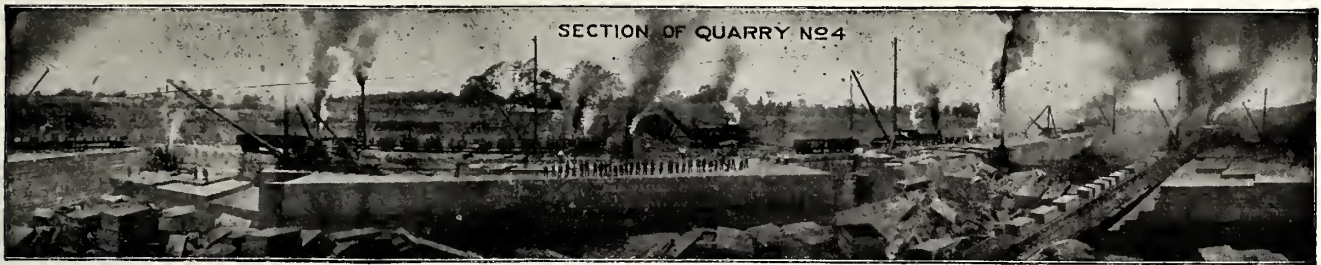
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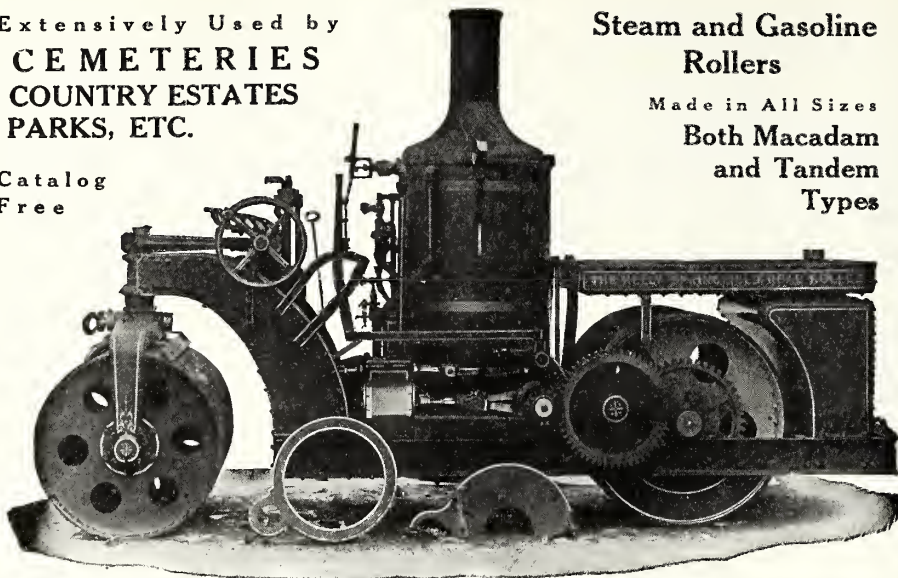
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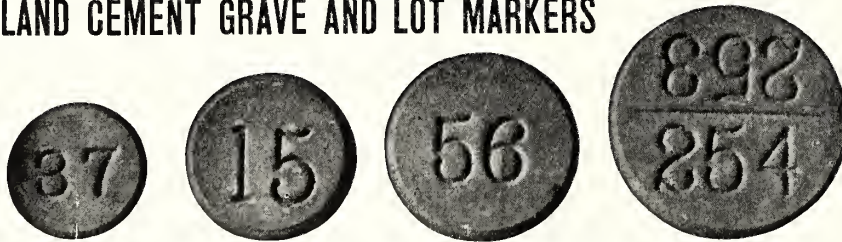
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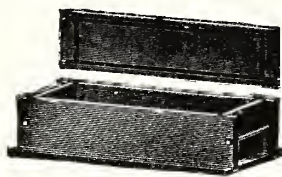
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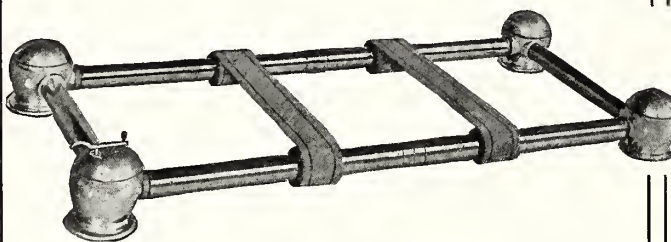
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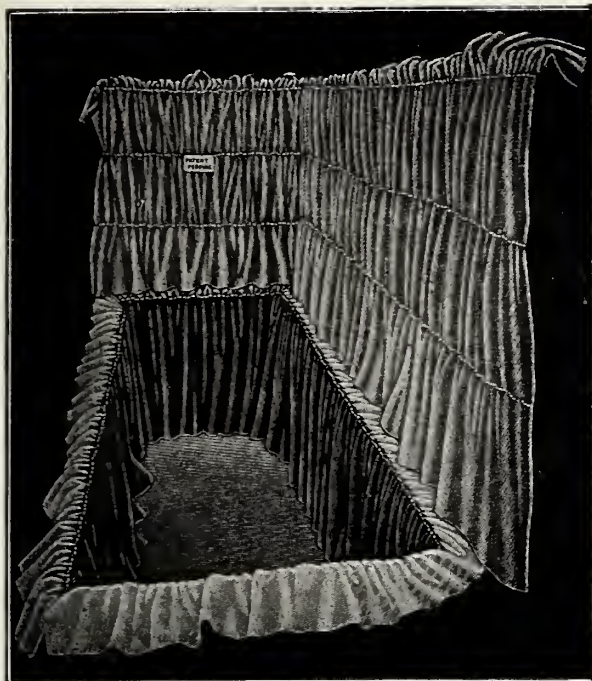
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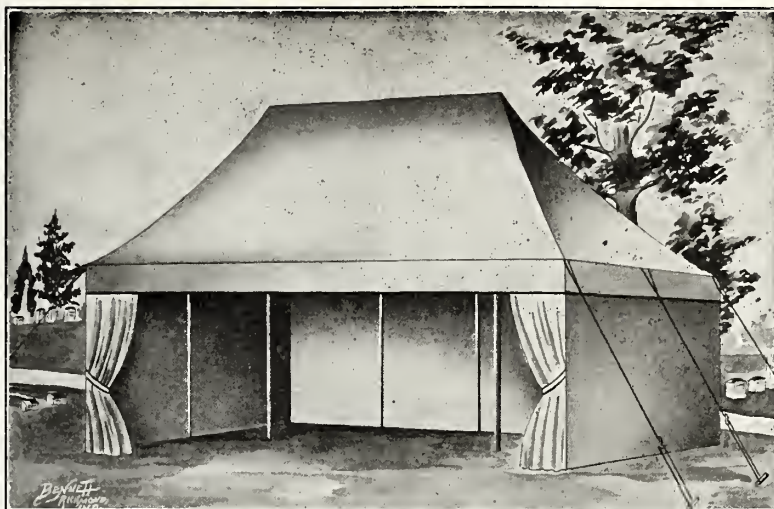
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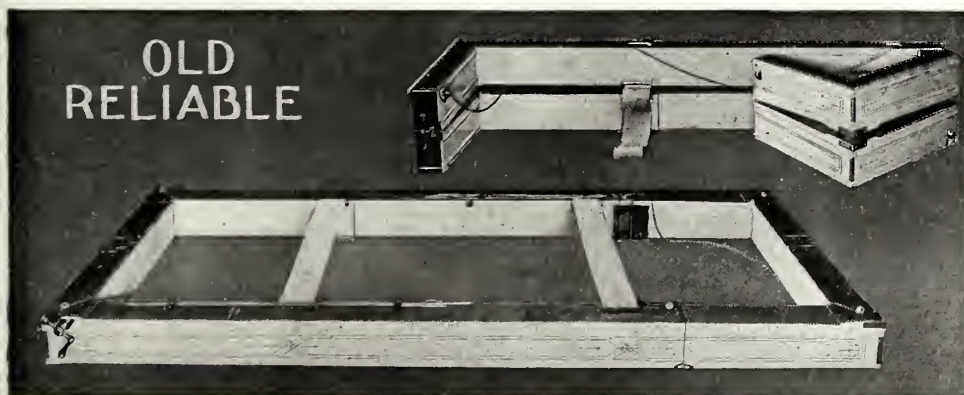
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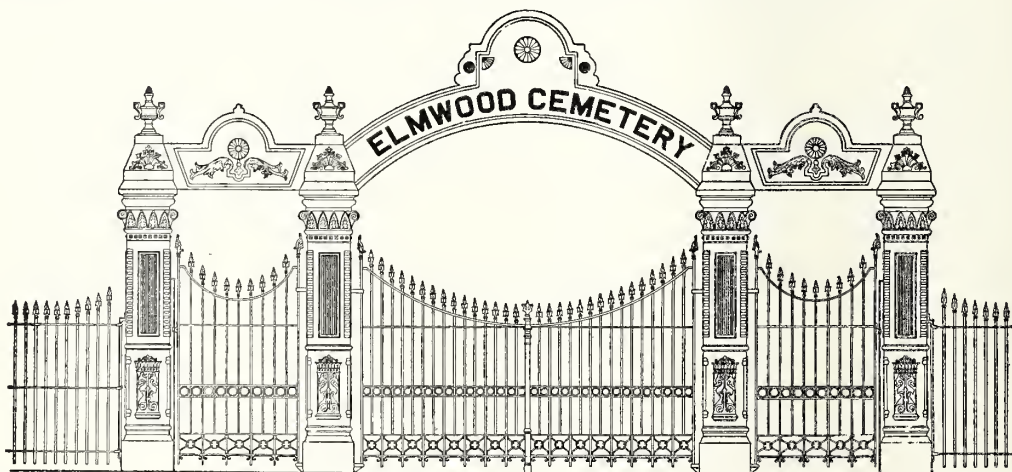
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Vol. XXV., No. 9 NOVEMBER, 1915

SPECIAL FEATURES IN THIS ISSUE

Park Recreation Problems—Landscape Setting for Fine Memorial—Endowment Funds for Private Mausoleums—Restrictions for Private Property on Parkways—Compressed Air for Park and Cemetery Use—Water in the Cemetery Landscape—Rebuilding an Old Lawn—Tenement Mausoleum Laws in Five States

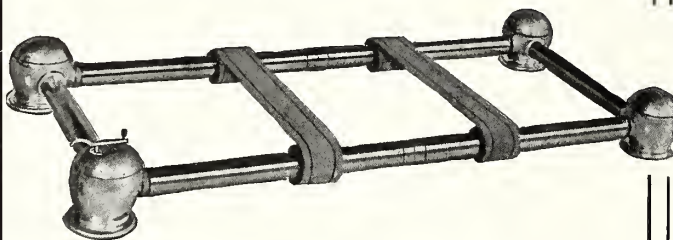


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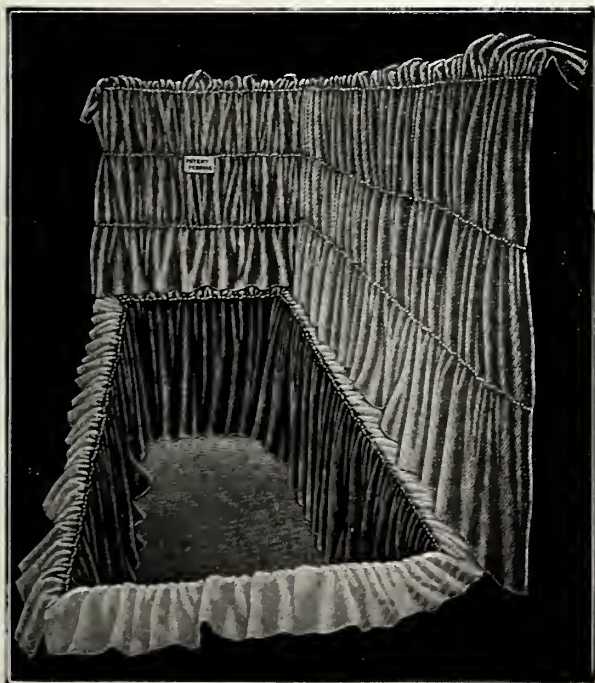
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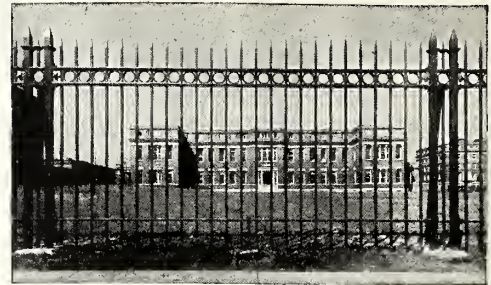
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NOVEMBER, 1915

EDITORIAL

VOL. XXV No. 9

Endowment of Private Mausoleums

Cemetery authorities have in recent years given much consideration to the matter of maintenance of private mausoleums, and this subject has been frequently considered at conventions of the Association of American Cemetery Superintendents.

There are a number of cemeteries that require an endowment fund sufficient to care for the mausoleum for all time, to be deposited when a mausoleum is erected. Some cemeteries make this provision compulsory, and others, without providing a definite rule, endeavor to secure an endowment deposit whenever possible.

Other cemeteries are at present considering the adoption of regulations of this character and it is undoubtedly a subject that will become more and more pressing as the years pass and as more mausoleums are erected. It is a very difficult matter to

formulate satisfactory rules regarding the endowment and maintenance of mausoleums, and many cemeteries maintain that each individual structure must be separately considered.

We present some interesting data on this subject on another page that embodies the opinions and the practice of a number of leading cemeteries. One communication goes into considerable detail in the matter of managing the fund and of caring for the mausoleum, and raises a number of interesting questions that are of the highest importance and which must be coped with in almost every cemetery in the near future. We invite especial attention to this communication and should like to have others discuss it. It is only by discussions of this kind that ideas along new lines are developed, and we hope to hear from many of our readers, with suggestions on this vital subject.

Prize-winning Shade Trees

That the largest shade tree in the United States, as brought to light by the prize contest held by the American Genetic Association, should turn out to be the Eastern sycamore is not surprising, say government foresters. The sycamore has long been regarded as the largest deciduous tree in North America and its range of growth is hardly second to that of any other broad-leaf tree, for it can be found from Maine to California and as far west as Kansas. The bestowal of the prize on a sycamore at Worthington, Ind., which is 42 feet 3 inches in circumference and 150 feet tall, draws attention to the fact that foresters are nowadays recommending the species especially for city planting. They say that long experience with sycamores planted in city streets has shown that the species is peculiarly able to withstand the smoke, dust and gases which are usually an unavoidable complement of urban life. In addition, the sycamore is as resistant to attacks of insects and fungi as almost any species, and is a quick grower; at ten years of age a healthy sycamore usually is already large enough for shade as well as for decorative purposes.

A common objection to the sycamore as a lawn tree is its habit of dropping its leaves before autumn. This drawback, however, is practically the only failing that the sycamore has.

On the other hand, there is little prospect of popularity, for-

esters say, for the valley oak of California, which was decided to be the largest nut-bearing tree in the United States, the contest unearthing a specimen in San Benito County which is 37 feet 6 inches in circumference and 125 feet high. The valley oak is a very beautiful tree, but it attains maturity only after three or four hundred years. Foresters say that the chestnut and the black walnut are the largest nut-bearing trees in this country, and the contest did, in fact, unearth a chestnut near Crestmont, N. C., which is 35 feet 4 inches in circumference and about 75 feet tall.

The contest brought forth photographs and authentic descriptions of 337 trees in all parts of the United States, making a distinctly valuable contribution to existing knowledge of native trees. It was found that, in all probability, there is no living elm larger than "The Great Elm" at Wethersfield, Conn., which is 28 feet in circumference and about 100 feet tall, and is estimated to be 250 years old. A sassafras was brought to light at Horsham, Pa., which is 15 feet 10 inches in circumference at four feet from the ground, whereas a white birch was found in Massachusetts with a girth of 12 feet 2 inches; a pecan was found in Louisiana with a circumference of 19 feet 6 inches, and a catalpa in Arkansas with a girth of 16 feet. The tallest tree found is a yellow poplar in North Carolina, which is 198 feet high and has a circumference of 34 feet 6 inches.

Community Tree Planting

A committee of the Chamber of Commerce of Rochester, N. Y., invited delegates from the surrounding towns to meet in Rochester to discuss the advisability of forming an association for planting the highways. A large number of delegates responded and arranged an association under the name of the Community Council. At a subsequent meeting seven counties and twenty-eight towns were represented. It was voted to order 25,000 trees to be planted this autumn. In a recent letter to Mr. Charles M. Loring, of Minneapolis, a resident of Rochester describes the enthusiasm for this work as follows: "Everybody has taken it up; everybody is talking about it; everybody is writing about it, and everybody, including all the automobile clubs, granges and State Forestry Association, wants to co-operate. Nurseries are offering nursery stock elm trees, eight to ten feet high, select stock, in lots of 500 trees and over, at 25 cents each. The State Forestry Association is sending out to all of the towns

directions for care and planting of the trees. It has also been suggested that all rail fences be removed and all weeds, the gutters kept clean, and some have suggested an inner row of small size fruit trees, with a double row of bushes, such as currant, gooseberries, blackberries and the like, to form fences in place of the regulation fence, being profitable as well as ornamental. I had no idea, when I started these suggestions last fall, that they would grow to the proportion that they have in the seven counties that are taking the matter up. Here is an abstract from a letter from Boston: 'As a result of the inspiration from a Rochester man, the Massachusetts Forestry Association, with headquarters at Boston, has caused a survey and planting plan of 320 miles of state highway in Massachusetts. This planting plan has just been completed and the practical work will be taken up this autumn. The layout is known as the Shade Tree Circuit, beginning at Boston and passing through Worcester, Springfield, Pittsfield, North Adams, Fitchburg, Athol and back to Boston.'

WATER IN THE CEMETERY LANDSCAPE

*An address before the Ohio Association of Cemetery Superintendents,
by Carl E. Kern, Asst. Supt., Spring Grove Cemetery, Cincinnati, O.*

I shall simply try to speak to you upon the subject. "Water in the Landscape," as a whole. I shall not attempt to define constructive features and the varied problems which often arise in dealing with water and which are again governed themselves by local conditions.

Beautiful scenery in the cemetery is what we are all striving for, according to the modern ideas and conception of our leading men in cemetery planning. There is nothing so suggestive of restful quiet to the peace of the mind and soul than the beautiful little lake set in amongst surroundings of sylvan beauty with its sparkling expanse in the bright sunshine, and in its cool coves and nooks we see the wonderful effects of shadow and reflection on its mirror-like surface to portray before us pictures of all the beautiful forms of vegetation above, and, let us take it for granted, some artful work in stone.

On looking over the many reports and pamphlets we receive from other cemeteries and parks, their most prized views of their respective places are usually scenes in the landscape where water is the predominating factor, which proves in itself the advantage and the desirability to embody water in the scenery wherever permissible and practicable in order to produce pictures of still greater attractiveness.

Fortunate, indeed, is the cemetery whose sponsors or promoters foresaw the value and advantage of some body of water or stream, may it be within the territory se-

lected or possibly some great lake or river being visible in the distance or even forming some parts of its boundaries. Of course, such conditions are ideal with special reference on this subject, and are existing in some instances in cemeteries, but more especially in parks, where the scope of the idea can be carried much farther and where many other vital questions can be eliminated which usually cannot be evaded in selecting a site to develop and operate a successful cemetery.

Water, as it were, is the soul of the landscape and everything responds to its life-giving power within its surroundings. To obtain such delightful and captivating effects of water, many of us must resort to artificial means to gain this end. First of all, we must consider the source of supply which at all times should be able to maintain a uniform level of water. Next, we should ascertain the suitability and condition of soil at the proposed site, which at times is the deciding factor if the scheme should prove to be practicable or not. Should the subsoil consist of a loose, porous material or even fissured rock, our greatest difficulty would arise to properly retain the water, which in some cases would prove to be a too expensive proposition to overcome.

Let us assume, on the other hand, that we have to deal with a piece of land which is low and marshy, generally unfit for cemetery use. Here we would have a most logical site for our lake or pond. The ex-

tent of our operations, of course, are always guided and based upon careful observations and surveys to determine as nearly as possible the amount of material gained by excavation, and its disposition thereof in such a manner which will bring the surrounding land to a decided higher level, and we are making land suitable possibly for burial purposes at the same time we are completing the bed of our intended lake.

In giving shape and form to our lake, much depends upon its designer and his keen sense of observation, fitting it into the landscape much like the jeweler would set some precious stone into some artistic design of his. There should be harmony in line with the immediate surroundings. Its outlines may be irregular, advancing, receding and forming promontories and coves. Islets should always be of secondary importance and the main axis of the sheet of water be unobstructed. To get some inspiration and to formulate our ideas upon this very point of distribution and outline, we have but to consult nature herself, and with some study of maps and, if possible, personal knowledge of locations famous for their natural aquatic scenery, we would certainly soon be able to apply the chief principles taught us by the hundreds of beautiful lakes, both large and small, with their charming islands and contributing streams.

The planting out of the banks near artificial water always offers an opportunity for the planter of securing good effects. There should be trees of different heights and sizes, and shrubs of lower growth situated singly or in groups. We naturally would think of the stately form of the Lombardy Poplar (*Populus Nigra Fastigiata*) and our native species of this tree. No planting of this kind would be complete without the use of some of the representatives of the Willow family, such as (*Salix Regalis*) with its silvery white foliage, the graceful Weeping Willow (*Salix Babylonica*), the Laurel or Bay Willow with its glossy foliage, and least of all, those which are distinguished by their brightly-colored bark. Let us not forget groups of the Pin Oak (*Quercus Palustris*) and the immense Swamp Cypress (*Taxodium Distichium*), which have obtained such enormous size in Spring Grove Cemetery. The Ash (*Fraxinus*), the Sweet Gum (*Liquidambar*), the Tulip Tree (*Liriodendron Tulipifera*) and some of the Linden (*Tilia Platyphylla*), also the Pepperidge tree (*Nyssa Sylvatica*) and Magnolia Glauca are all trees that will thrive well and love a moist situation. In order to produce strong, rich contrasts on the higher banks, material of secondary growth should be used, such as the Red Bud



LOOKING ACROSS THE LAKE, GRACELAND CEMETERY, CHICAGO.

(*Cercis Canadensis*) combined with our beautiful Dogwood (*Cornus Florida*), Alders, Spireas, Forsythia, *Suspensa*, *Cornus Alba* and *Sanguinea*, and preferably some of our native species. Also some of our native Swamp Button Bush (*Cephalanthus Occidentalis*) and the large White Umbels of the American Elder (*Sambucus Canadensis*) always love to reflect themselves on the water's edge. Along the lower banks and margins the growth of small plants, especially Herbaceous Perennials, should be encouraged, and, if possible, there is nothing so effective as permitting nature to follow her own course in clothing the borders, and we will soon see our water line decorated with some of the moisture-loving species of the Goldenrod (*Solidago*) or colonies of the Brook Sunflower (*Bidens Laevis*), and in the fall the myriads of flowers of our native Asters, together with the Eupatoriums, and many others. Also let us make special efforts to introduce the spring flowering Marsh Marigold (*Caltha Palustris*) and the Scarlet Flowers of *Lobelia Cardinalis*, and, least of all, great clumps of the Marsh Mallow (*Hibiscus Moschaetus*). The various ornamental grasses such as *Arundo Donax*, *Eulalias*, *Erianthus* and sages are always indispensable in the planter's mind. Among aquatic and bog plants we are fortunate again in simply accepting that which bountiful Dame Nature is offering us right here at home, without compelling us to use the many and very beautiful exotic water plants. Along the margins in shallow water let us establish the always interesting Arrowhead (*Sagittaria Latifolia*), elsewhere a few plants of the common Cat Tail (*Typha Latifolia*) and the Bulrush (*Scirpus Lacustris*), which will soon produce colonies of their own, also the bright purplish blue flowers of the Pickerel Weed (*Pontederia Cordata*) and the Forget-me-not (*Myosotis Palustris*) are always a charm along the water's edge.

In the coves of our lakes let us set our

Pond Lily jewels, without which half our efforts to embellish our lakes and ponds would be in vain. The queen of our native aquatic plants is beyond doubt (*Nymphaea Odorata*) with her pure white flowers, also her near relative (*N. Odorata Rosea*)

are put in motion at the slightest touch of the breeze, which themselves are again surrounded by their great rosebud-like flowers nodding lazily upon their smooth, long stems.

Deep interest and admiration are awak-



WATER VIEW, GRACELAND CEMETERY, CHICAGO.

with its beautiful deep pink and fragrant flowers. Many other hardy varieties and improvements of Nymphaeas have been produced, such as *N. Richardsonii* with immense white flowers, *N. Robinsonii* of exquisite shade of orange red, and the fine family of *N. Marliacea*, etc. Doubtless the most striking of all water plants are the Lotus (*Nelumbium Speciosum*). Nothing helps more to accentuate points in the scenery of our lake or pond than these remarkable plants. Their large, rotund leaves

ened at once in the eyes of our visitor in the cemetery if his path should lead him by the borders of our pond, and who knows, this single moment possibly was sufficient to divert his troubled mind and to dispel his thoughts of the shadows of Death, and our visitor goes away with a picture of beauty, harmony and peace impressed upon his mind, which more than compensates us for our humble endeavors to make the cemetery ever a place of attractiveness and a joy for the living.

RECREATION WORK PROBLEMS OF PARK BOARDS

An address before the San Francisco Convention of Park Superintendents, by Theodore Wirth, Superintendent of Parks, Minneapolis.

The recreation work which park administrations of today are conducting has brought with it a number of problems which for many, and probably all of us, are difficult to solve. To bring about the acquisition of lands for desirable park playgrounds and their improvement and equipment seems comparatively easy compared with the question of securing the necessary means for their proper and efficient maintenance, in order to meet the constantly stimulated and ever-increasing demand for all kinds of service.

To make our park possessions the recreation grounds of our people, in the fullest sense of the word, is the aim of all pro-

pressive park administrations of today. The public deriving the benefit from parks and playgrounds, generally speaking, is willing to pay for the cost of the acquisition, improvement and maintenance.

Recreation, if I understand the meaning of the word, means many things. It means the refreshment of strength and spirit after toil in the pursuit of our daily vocations. It means diversion, amusement and exercise of one kind or another. It means rest, relief, relaxation, regeneration. Recreation to some of us is one thing; to others it is something else; and we park builders and supervisors have it within our power to provide it all. It is our duty to see that we do not willingly, or even un-

knowingly, discriminate in favor of one to the detriment of the other.

We all know that the playground movement, as most of us call it, has made tremendous progress in the last ten years, and I have often felt of late that, in our aim and zeal to satisfy the demands of the people, and our own ambition to lead, we are possibly over-reaching in some instances the real needs in that direction, and may be using for these purposes an unfair proportion of the limited means at our disposal to the neglect of other things perhaps fully as important. We are apt to overdo some special features and lose sight of others equally deserving of merit. Let us not forget that exercise and play are only

a part of the recreation program which the laws of nature have mapped out for us to follow.

I am, and always have been, a strong advocate of making public parks the free recreation grounds of the people with as few restrictions as possible. I mean all the people. Parks are for rest as well as exercise. By all means let us provide for

I believe it is possible to draw a line between what we may call general service and special service in our recreation work.

Under general service, I class all constructive work necessary to provide the facilities, namely, the acquisition of grounds; their improvement and equipment, so they may answer the purpose for which they have been acquired.



JAPANESE LOG IN HARTFORD, CONN. PLAY PARK.

our children to the fullest extent within reason, but in doing so we must not overlook the needs and rights of the fathers and mothers and other grownups who are still among us and whose recreation calls for rest rather than exercise.

On account of insufficient funds, it is impossible for most of our park administrations to meet all the demands of the public for the numerous recreation activities. There is almost no limit to the service that could be rendered if the necessary means were always available. Admitting that all service demanded is at least desirable, let us ask ourselves the question: Is it feasible and justifiable that the cost of all such service be covered by a general tax? Undoubtedly there is a diversity of opinion on this question amongst us, and to bring the subject up for discussion I express my opinion that to tax the entire cost of all service rendered against the general taxpayer is as unfair as it is unnecessary. I present three main reasons for this contention.

First: A large percentage of the taxpayers can not and do not, for one reason or another, make use of all of the facilities offered and provided, and consequently do not derive the full benefit to which they are entitled.

Second: I believe it to be an unwise policy to foster to the extreme the idea of the free use of all facilities that may be offered. To give everything free will result to a great degree in the careless and reckless use of such privileges and will lessen the appreciation and value of the service rendered.

Third: The users of certain facilities can well afford to pay a small fee, and so help to maintain the service from which they receive special benefits.

This general service must also include the regular maintenance work necessary to keep such grounds in serviceable condition.

We have, therefore, under this form of service, provided for all such things as



WADING IN LAKELET IN POPE PARK, HARTFORD, CONN.

lawns, plantings, flower beds, roadways, walks, bridges, benches, tables, lights, drinking fountains, shelters, buildings of all kinds, playgrounds and their apparatus, etc., and we maintain them in serviceable condition.

Under special service, I place certain accommodations and facilities which, I believe, should not be furnished gratis and for which a nominal charge should be made. They are as follows:

Bathing Service—The use of the bathhouse accommodations should be free, but a nominal charge should be made for the

use of bathing suits, caps, towels and such incidentals supplied by the department. Those who bring their own suits and towels have, therefore, absolute free service.

Boating Service—The lakes and rivers under the jurisdiction of park authorities are, of course, the same as a highway. Anyone can put his boat on the water and use it the same in compliance with existing rules. Charges, however, should be made for the season for the use of platforms, racks and lockers built for the landing and storage of private boats and other equipment, and for their special police protection. Boats and launches let out by the department should, of course, be rented at a nominal price per hour or trip.

Tennis Court Service—Where there are a number of courts together, I believe it would be well to furnish the nets and charge a nominal fee for the use of same per hour. This would not only help to maintain the courts, but would also facilitate the enforcement of the rules and protect the rights of all comers to get the use of them.

Skating and Toboggan Service—The renting out of skates and toboggans to the public is an accommodation well worth a nominal fee from those who use them.

Locker Accommodations at Golf Links, Gymnasium, etc., by the Season—An appro-

priate charge for such accommodations, which are similar to those rendered at a private club, is, I believe, entirely justifiable. It is a question, however, in my mind, whether the renting per season of such lockers is justifiable at any fee if the demand for them exceeds the accommodations.

Refectory Service—No one, of course, will claim that refreshments, outside of good drinking water, should be furnished gratis, but the claim is made by many that such service should be rendered at cost.

I claim that all such service should be

rendered by park authorities through their own employees and not through concessions: that all drinks and foods should be served in the best possible manner and must be of the best quality, and that they should be sold at a reasonable profit to the board.

The following reasons, I believe, will sustain my views and claims in this matter:

First: Park authorities should not enter

into unfair competition with others who have to make their living in that business.

Second: The profits so earned can be used to advantage in the betterment of the service, equipment, and in other improvements by which the public will be benefited.

I am of the opinion that in charging reasonable fees for such and similar services rendered, as herein described, we accomplish at least three distinct desirable things:

First: We gain the means not otherwise obtainable of rendering additional desirable service.

Second: We secure those means through taxing people who make use of that service and are thereby directly benefited.

Third: We are better able to determine what service is really needed, wanted and appreciated, and consequently we are less liable to spend labor and money uselessly.

ENDOWMENT FUNDS FOR PRIVATE MAUSOLEUMS

Some cemeteries require maintenance funds for family mausoleums; others considering it; some of the rules.

Editor Asked and Answered Dept., PARK AND CEMETERY: It is my intention that lot owners who wish to erect mausoleums should set aside with the cemetery association a certain sum of money to maintain such structures. I should like to hear from officials of cemeteries who have such regulations what sum they require for maintenance of a mausoleum, and whether it is a fixed sum or based on a percentage of the cost of the structure, and what regulations they have governing this matter.

—B. C. H., Mich.

The maintenance of vaults has not hitherto had our serious attention. We ask that a sum be placed in our perpetual maintenance fund that will pay for the following items:

(a) "At all times keep the vault clean, wiped, swept, and, if any, brass shining."

(b) "Maintain and renew flowers and shrubs."

(c) "Locks and hinges to be oiled, maintained and, when necessary, renewed."

(d) "Cement examined annually and re-pointed when necessary."

We find \$1,000 covers these requirements on a vault costing not to exceed \$10,000.

The writer realizes these provisions fall far short of the ideal, and do not anticipate the gradual deterioration of or permanent and perpetual reparation of the structure.

All vaults are more or less vanity and are built more to impress the present generation with the importance and wealth of the builder than to create architectural achievements that will last through the ages.

There are features now in vogue in the maintenance of these vaults that can be vastly improved.

First: The cemetery company is not the proper party to hold the funds for maintenance. In the dim future it will become contractor, auditor, payer and payee, and self-interest will so far outstrip the client's interest, for he then has no representative, and it would be more than human if the cemetery company gave the client a fair deal.

Second: A trust company as a neutral party seems to be the modern custodian of such a fund. Empowered to check up the cemetery company to see that all of its

obligations are complied with, alive at all times to the changing conditions in securities, a trust company seems the very best medium in which to place a sacred trust of this nature.

Third: It is customary in some cemeteries to place a lump sum in the maintenance fund, say 10 per cent of the cost of a vault, for the vault's maintenance, and on which sum the cemetery company proceeds to draw the interest annually. I believe this is wrong, because the interest provides a larger sum than is necessary for the first period of twenty years, and is altogether inadequate for the third and fourth periods of twenty years.

Fourth: I suggest an improvement on this feature, a plan that will provide the funds as they are needed and not sooner; funds sufficient to prevent the ruin of the structure and rebuild it after 100 years and every hundred years if necessary without being a burden on the builder, as follows:

On a vault and lot worth \$25,000 have the builder place in the perpetual maintenance fund \$5,000, of which

\$2,500 be invested for immediate care;

\$500 be placed on deposit to compound 16 years;

\$500 be placed on deposit to compound 32 years;

\$500 be placed on deposit to compound 48 years;

\$500 be placed on deposit to compound 64 years;

\$500 be placed on deposit to compound 80 years.

At $4\frac{1}{2}$ per cent interest the deposit doubles in 16 years.

This would yield an income during the first period of 16 years on \$2,500 of \$112.50; second period of 16 years on \$3,500 of \$157.50; third period of 16 years on \$5,500 of \$247.50; fourth period of 16 years on \$9,500 of \$427.50; fifth period of 16 years on \$17,500 of \$787.50; sixth period of 16 years on \$33,500 of \$1,507.50.

These figures may not be correct and the initial annuity may not be ample, but the idea is submitted as an improvement on present methods, on the theory that as a vault deteriorates the income increases;

the means are provided to meet constant erosion and decay, and, if necessary, to rebuild it and then repeat. GEO. LAW,

Secretary, Forest Hill Cemetery.

Kansas City, Mo.

* * *

Regarding the question of endowment of mausoleums, we have so few of them, the question of endowment has never been seriously considered by our trustees. It is a question that we shall be obliged to go into very soon, however, and I shall await the results of your investigation with considerable interest.

ARTHUR W. HOBERT,

Secretary, Lakewood Cemetery Assn.
Minneapolis, Minn.

* * *

We have no rules pertaining to the maintenance of mausoleums. So far we have managed to get a better price for the ground upon which a mausoleum is to be constructed than we do for an ordinary burial lot. Personally, I believe there should be quite a sum added to the price of the lot and the extra money set aside for the maintenance of the mausoleum.

THEO. E. ANDERSON,

Supt., River View Cemetery.

Portland, Ore.

* * *

We do not require a lot holder erecting a mausoleum to give us a certain sum of money in trust to maintain such structure, but we do try, however, to influence them in this direction. In a great many cases we have been successful, but in others the owners pay no attention to our requests.

GEO. M. PAINTER,

Supt., Westminster Cemetery.

Philadelphia, Pa.

* * *

We have the following rule governing this subject: No private vault shall be erected in the cemetery without a sufficient sum of money as an endowment for the permanent maintenance of same having first been deposited with the Cave Hill Investment Co. The amount of this fund will be governed by the size of the lot and vault and the type of construction. We discourage the building of all private mausoleums in Cave Hill Cemetery, however, on account of the structural difficulties in erecting a thoroughly permanent building.

We only count on a 3 per cent income from all bequests, the sum so left being governed by circumstances.

ROBT. CAMPBELL,

Supt., Cave Hill Cemetery.

Louisville, Ky.

* * *

The Board of Trustees of this cemetery, seeing the necessity of having a certain sum set aside for the maintenance of mausoleums, made it a rule that before the foundation for a mausoleum was put in there must be deposited with the association a sum equal to at least 15 per cent of the cost of structure, but no amount less than \$1,000 should be provided. The income from this fund is used for janitor service and for such ornamentation as is desired by the owner of the mausoleum, besides leaving an accumulation for unforeseen contingencies.

WOODLAWN CEMETERY ASSOCIATION.

John Perrin, Supt.

Toledo, O.

* * *

This cemetery has a rule compelling lot owners to deposit a sufficient amount when a mausoleum is built, for its perpetual care. The required sum for such care is based upon the amount of annual expense in connection with it, and not on a fixed sum or the percentage of cost of the structure. We arrive at the amount necessary as follows: The general form or style of building is taken into consideration and an estimate of the amount of labor and material required annually to be spent upon the building and its cost. We then figure on a certain amount of 4 per cent, which will yield the amount required. It is also a rule with us that the drawings for all such structures be submitted here for approval before the building is contracted for, so that we are very careful to see that the construction is in durable form, so that we can arrive at a proper estimate as to the amount necessary.

WM. SALWAY,

Supt., Spring Grove Cemetery.

Cincinnati, O.

* * *

In the rules and regulations of the Allegheny Cemetery occurs the following: "No private mausoleum shall hereafter be erected in the Allegheny Cemetery without a sum of money, sufficient for the permanent maintenance of the same, having been deposited with the Board of Managers. In later years the ravages of time prey severely upon mausoleums and it is necessary that provisions should be made at the beginning for keeping them in perpetual good repair." Very few of the earlier built mausoleums have any endowment for present or future care, but the above rule is enforced as regards recently erected structures. Our endowments on mausoleums run from \$300 to \$5,000 each, but we have no fast rule as regards them; the buildings differ so much in size, construction and appointment. In their main-

tenance we use the interest only, never any part of the principal, and whatever extra money is left after caring for the mausoleum is spent on the embellishment and care of lot; in fact, the endowment covers both vault and lot. Very seldom, indeed, have we any trouble in this direction.

WM. FALCONER,

Supt., Allegheny Cemetery.

Pittsburgh, Pa.

* * *

We have not as yet taken any steps to make it compulsory for persons who erect mausoleums to set aside a trust fund for the maintenance of such structures. This matter is before our directors now and very likely some definite rules regarding this matter will be adopted by next year. Personally, I am of the opinion that no set rule or schedule of rates can possibly be figured out that would be suitable for all cases; climate conditions, materials and method of construction must be considered when estimates are made for cost of maintenance. Probably the wisest and most equitable plan for both the cemetery and owner is the one under which a contract is made, suitable to existing conditions of each case.

FRANK EURICH,

Supt., Woodlawn Cemetery.

Detroit, Mich.

* * *

We have no regular rule in regard to the amount that should be deposited for the care of mausoleums and have not insisted that such a deposit be made. However, amounts have been deposited on many occasions and usually on the following basis: An estimate is made of the annual cost of keeping the mausoleum in repair and the sum required must yield this amount on the basis of 4 per cent. Sometimes a lump sum, considerably in excess of this, has been deposited with the trustees.

O. C. SIMONDS,

Chicago, Ill.

Graceland Cemetery.

* * *

We have no set rule governing the amount of deposit for maintenance of mausoleums. We have had several inquiries recently in regard to this matter, but are unable to give definite information. Several of our lot owners have made provision for the care of their mausoleums, which includes tuck pointing and cleaning the interior, and the interest from such deposits is used for the work as occasion requires. It is rather difficult to estimate the amount required for maintenance, as the construction of mausoleums varies a great deal.

ROSEHILL CEMETERY Co.

Chicago, Ill.

Thomas Wallis, Supt.

* * *

Following are the regulations governing mausoleums in Crown Hill Cemetery, Indianapolis:

The erection of a mausoleum, or a vault or tomb above ground, will be permitted

only upon compliance with the following requirements, which are considered essential to the best interests of the lot owners and the cemetery:

A. The lot upon which such a structure may be erected shall be a lot set apart and designated by the cemetery as a "mausoleum site," and shall have an area of not less than four times the area to be occupied by the structure, but in no case shall the area of the lot be less than 1,200 square feet.

B. The plans, specifications and position on the lot for such a structure must be submitted to the superintendent and approved by him; and the cemetery reserves the right to prohibit the erection of any structure that is not considered suitable or desirable in the cemetery.

In any case, the material of such structure must be granite of good quality; the foundations must be not less than six feet deep or less than two feet thick in the outside walls; the stones of the walls and roof of the superstructure must be not less than twelve inches thick at any joint and must be of sufficient size to reduce as far as possible the number of exposed masonry joints; the roof must be supported on the walls of the building without requiring intermediate supports; all metal work must be bronze of standard quality; a complete system of ventilation must be provided; the crypts must each be completely inclosed independently of the walls of the building and so arranged that each can be hermetically sealed after a body is placed therein; and an air space must be provided between the crypts and the walls of the building. The selection of the position on the lot must be made with a proper regard for the relation of the mausoleum to the adjacent lots and monuments and for general appearance of the grounds.

No rock-faced work is allowed in mausoleums.

C. The perpetual maintenance of such a structure, that is to say, the future repair, preservation and cleaning of the mausoleum, must be provided for in the following manner:

When the plans and specifications for the mausoleum are submitted, the superintendent will estimate the probable annual expense of the maintenance and cleaning of the structure, and report his recommendations to the Board of Managers.

The Board of Managers will then fix an amount in consideration of the payment of which to the cemetery, the cemetery will enter into an agreement with the lot owner to expend a given average sum per year in the repair, preservation and cleaning of the mausoleum. In no case, however, will this amount be fixed at less than \$1,000 for a mausoleum or tomb wholly above ground. This agreement must be executed, and the full payment of the sum stipulated therein must be made to the cemetery before work on the mausoleum is begun.

An agreement, similar to the one for new mausoleums, will be made with owners of mausoleums now standing, and they are urgently solicited to make such provision for the future care and preservation of their mausoleums, while those most interested are yet living, and to the end that these structures shall forever remain intact as places of sepulture and as ornaments to the cemetery.

In making such an agreement with reference to a mausoleum now standing, it is essential that provision first be made for putting the building in the best possible condition before the cemetery is charged with the care of it.

* * *

Some fifteen or sixteen years ago I had my board pass this resolution:

"The erection of vaults or tombs wholly or partly above ground will not be allowed without special permission of the Mount Hope Commission and according to their rules and regulations; therefore,

"No mausolcum or tomb shall be hereafter erected without a sum of money, deemed sufficient for the permanent care of same, having first been deposited with the commissioners, and in no case not less than one thousand dollars (\$1,000.00) and as much more as the superintendent may deem necessary after plans and specifications have been submitted for approval."

We have lost, to my knowledge, two lot

purchasers on account of this rule, and in another case the purchaser, after buying a lot in another cemetery with the idea of building a mausoleum, came back and purchased from us, having, after thinking over the matter more seriously, seen the wisdom of perpetuating the building after an expense of \$10,000 to \$12,000.

JOHN W. KELLER,
Supt., Mt. Hope Cemetery.

Rochester, N. Y.

* * *

We have no set rule for determining the amount that should be placed for the perpetual care of mausoleums based on their initial cost. Mausoleums vary considerably in both exterior and interior construction and choice of material, so that it would not be wise to make a figure at much less than 25 per cent of the original cost of the cheaper class of mausoleums—i. e., where the lot holder has been influenced more by the number of crypts he could get for a certain amount than excellence of design, construction and material. The better class of mausoleums could probably be maintained at a lower rate, say, 15 per cent of the initial cost. Our method is to have an experienced contractor estimate on the cleaning and repointing of the interior and exterior once in every five or ten years. Then we add janitor service at so much per week or month; added to this is the annual charge for cutting the grass and keeping the sod in repair. We find that

nearly all of our lot holders nowadays take the endowment of their mausoleums into consideration and many place the funds as soon as they are completed, so that in a new cemetery I believe it to be a wise and reasonable regulation to require this endowment.

WM. J. PROUD,
Supt., Laurel Hill Cemetery.
Philadelphia, Pa.

* * *

Up to this time we have no regulation for the provision of special care funds for mausoleums. While this question has been and is still, under consideration, we are appealing to our lot owners, urging the importance to provide suitable provisions for the permanent care of their mausoleums, and we are meeting with considerable success. There is no doubt in our minds but that this is very important and necessary, and should appeal to every cemetery in a like manner. With reference to the required amounts necessary for the preservation and repair of mausoleums, we deem it advisable that each mausoleum be considered individually, thereby carefully examining the construction and the necessary repairs occasioned, and base our estimate accordingly. The fund is estimated to yield a 4 per cent income. We can hardly believe a percentage, based on the cost, can be depended upon.

THE WOODLAWN CEMETERY.

By Fred R. Diering, Supt.
New York City.

REBUILDING WORN-OUT LAWNS

An address before the Ohio Cemetery Superintendents' Association, by J. C. Woodward, of Lakeview Cemetery, Cleveland, O., with discussion following.

A lawn is a combination of the right kind of grasses in the right kind of soil, and taken care of in the proper manner. The first essential thing is the soil, and if it is not naturally adapted to making a lawn we should make such changes as might be necessary. The ideal soil combination is a bed of clay covered with from three to four inches of good loam which is as free from weed as it is possible to obtain.

Ordinarily soils contain in some quantity such elements as are required by the grasses for food. However, as they are grass feeders they soon exhaust the soil of its fertility, and if the good appearance of the lawn is to be maintained we must renew these elements such as potash, phosphoric acid, and a large amount of nitrogen. The best sort of potash is in wood ashes, which also contain about 50% lime. The best sort of phosphoric acid is in bone meal. The best sort of nitrogen is in well rotted manure. Bone meal is also a good source of nitrogen, and the particular advantage in bone meal is that it gives up these fertilizing elements gradually, thus feeding the plants as they can use it.

In our cemetery we have found that a good grade of manure is an excellent fertilizer, as it is quite free from weed seed.

The kind of seed to use must be determined by the kind of soil available, and the particular use to which the lawn is to be put. In this locality the natural grass is Kentucky blue grass, red top white clover, various kinds of bent grasses, rye grass and some other sorts are used for various purposes. It is desirable to use several in combination for the following reasons:

The Kentucky blue grass takes from six to eight weeks to germinate and it will remain in the ground sometimes a year before it germinates. Consequently, when the Kentucky blue grass is sown alone the start is apt to be imperfect, and this gives us a good reason for using other grasses that will germinate more rapidly, so that the lawn will not only show green sooner, but will bind the Kentucky blue grass so that it will come up where it was sown, instead of washing out.

Red Top is a particularly desirable variety to sow where the soil is inclined to be damp or too moist, and in such a locality Kentucky blue grass will not thrive as well.

White Dutch clover is very frequently used in lawn mixtures because it is deeper rooted than the other light grasses, and will give the sod depth which it otherwise

would not have. Being deeper rooted than the light grasses, white clover will bring to the surface for the benefit of the shallow rooted grasses the moisture that lies deeper in the ground than the roots of the latter penetrate. White clover is also beneficial to the lawn by taking from the air a large amount of nitrogen and placing it back into the soil through the nodules of its root system, and this is readily taken up by the other grasses as plant food.

The best mixtures known to me that I think are best adapted to making a good cemetery lawn are as follows:

30 lbs. Kentucky Blue, 20 lbs. Fancy Red Top, 30 lbs. Rhode Island Creeping Bent, with 5 pounds of White Dutch clover when used in a sandy soil, and only 2½ pounds when used in clay soil, as the clover comes up naturally in the clay, while it dies out in the sand.

If a little finer lawn is desired I would advise the use of 50 lbs. of Rhode Island Creeping Bent, 30 lbs. of Kentucky Blue and 20 lbs. of Fancy Red Top.

The most practical time to sow grass seed is in the spring, as early as the weather will permit, continuing until the middle of June, and again in the fall—from August 1st to October 1st. The latter date, however, is rather extreme, as the weather

is uncertain at this time of the year, and if the grass does not sprout it will have to remain in the ground during the winter to come up early in the spring. The particular advantage of sowing grass in the fall—say between the middle of August and until the first of September—is that the weed seed that may be in the soil will not germinate, and that the grasses that are sown come up clean and will obtain sufficient growth to withstand the most of our winters. After the seed has been sown and raked or otherwise gotten into the soil, then comes the work of germinating the seed. The soil should be kept moist at all times, especially until the tiny blades of grass come through to prevent a crust from forming on top of the soil and thus prevent the germinating seed from making its way. With a good water supply one should have the young grass far enough along in about two weeks under favorable weather conditions to begin weeding. If it is started in the spring and it should be kept free from weeds the remainder of the season, and with a little attention in this respect thereafter, a clean lawn can be maintained.

As for renovating an old lawn there is but one practical way to proceed, and that is to remove the old sod entirely, placing it somewhere to decay, and later be used for flower beds, or in preparing special soil for rhododendrons and other shrubs. If the soil is sandy take out at least six or eight inches, and fill in its place with a good clay loam, which must be well fertilized, and covered with enough of the sandy loam that was removed to sow the seed in; and if the soil is found to be clay of a good quality, if well fertilized, a good result may be obtained.

J. C. WOODWARD.

Mr. Whitaker: What appears to me to be impractical would be the removal of old sod. I wouldn't like to undertake that myself.

The President: You don't generally do that work anyhow. You leave that for somebody else.

Mr. Whitaker: I leave it for somebody else to do that. Some person suggested the idea of scarifying—using a tool called a scarifier, a sort of rake, the way I understood it—rake it thoroughly and then resow and to roll it afterwards. I don't remember who that was but that was the understanding I got out of it—to use a scarifier and then resow the lawn in that condition after being thoroughly raked.

Mr. Woodward: One thing, gentlemen, I would like to make clear to you—it depends on the kind of lawn you want to make. In our cemetery we probably go to the extreme in this particular. We take pride. We think it is the finest throughout the country. We have a very large organization that we train constantly on giving attention to the various conditions. These lawns are watched and weeded

every day, certain men cover certain areas. There are no two lawns alike. When you get the individual interest of your organization to apply their efforts on the subject, they become students and learn your problem, and so I claim that a good lawn comes from the ability of those who work for you and your ability to get out of them their best efforts in bringing up and taking care of the lawns.

Mr. Kern: I would like to ask the gentleman his experience at the end of the season, when excessive watering has been necessary in order to retain the green condition during the late summer time—what are the results—what condition does he find the lawn to be in at the end of the season?

Mr. Woodward: Watering the lawn is of course one of the evils. In order to keep a green lawn, it is quite a job and you have got, of course, to put up with a few of the evils. The weeds, of course, come from the water absolutely. You take an old general care lawn and you won't find near as many weeds as you will where you are continually watering, in the fall of the season. It depends on the kind of seed you have in your lawn, the condition of it; with the Rhode Island you might sow a little yellow—what as the country people calls a plenty of clover in it.

Mr. Glass: In our cemetery we have places where the grass grows up as much as an inch or two in one week higher than the balance. It seems to grow in a circle maybe not more than eight inches wide—some places in a circle of eight or ten feet. I would like to know what that is—a germ or what it is, if anybody knows? That grass will be thrifty and grow an inch or two higher than the rest of the grass around it in a week or two.

Mr. Kern: I believe I am able to answer the question of the gentleman as to what causes the contrast of growth and even

the color of the grass on the lawn in the circular form. I am not able to give you the name of the object that causes this appearance but I am sure and positive that it is fungi and mushroom that causes that condition. The mushroom is not very often visible. Its growth seems to get along between the sod, not below the sod or above the surface but right immediately above the roots and it is of a rapid growth, and the mushroom after it is developed lasts but a few hours and it soon decays and returns to vegetation again, and that is one of the reasons that causes the more verdure in your lawns. The mushroom may be causing that.

Mr. Glass: Now, we have what they call the Hunkey mushroom; they are little bits of fellows. We notice they are so much thicker there than at other places and I wondered if that is where it came from. They bob up, little fellows about this high.

Mr. Kern: The decaying mushroom, after it decays, fertilizes.

Mr. Metzger of Wapakoneta: What causes mushrooms?

Mr. Kern: They are different kinds of fungi.

Mr. Metzger: Can anything be done to stop these mushrooms from growing?

The President: Calcium chloride. I guess most anybody can tell you what to kill them with but what it will do to the sod is the next question. It is not what we can kill the obnoxious weeds with but what we can do afterwards. If it is mushrooms, I don't know anything only to eat them. Of course we do have soil in our cemetery. If you are talking about mushrooms I know there are plenty of places, especially around trees that are cut down that have life in them, you will find these mushroom growths come up and blacken after a while and kill the stuff that is around them.

USING WASTE LAND IN CEMETERIES.

What can be done with the waste land in cemeteries? I will make a few remarks relative to the use of ravines or hollows. They are usually, to some of us, a bugbear. We don't know what to do with them. You possibly haven't the means of doing the heavy grading and filling operations to fill up these hollows and ravines. Now, the most logical thing to use to fill up such places would be to throw dams across and fill them with water, that is, provided there is an ample supply of water to do it with. In the upper part of Spring Grove Cemetery we have a ravine extending possibly for a mile and a quarter. At two points in this ravine it has been intercepted by fills, and roads thrown across it. Of course, each fill forms a dam and is the basis for a new lake. At the head of this ravine a smaller dam was thrown across, and the upper lake is connected with the lower one by a beautiful little cataract where the water tumbles down in

a beautiful cascade effect. And below this we have a chain of lakes formed by smaller dams. I believe there are four of them. As you stand on the first road, of which I have spoken, and look down, you have a most perfect perspective—a chain of lakes, one connected with the other, and the perspective is something wonderful to behold. The surrounding native growth has never been disturbed, and its native trees and shrubbery are very beautiful. There is nothing more effective than to let Nature have her way in making use of such conditions. This is mentioned simply to remind some of you what can be done with some of the waste places you may have in your cemeteries. It does not matter how large or how small they are, you can apply the idea to these spots and create a piece of water. It is always effective and it always adds to the attractiveness of your cemetery.—Carl E. Kern at Ohio Cemetery Convention.

RESTRICTIONS FOR PROPERTY ON PARKWAYS

From a report on an Essex County (N. J.) Park System, by Olmsted Brothers, Landscape Architects.

One of the most important considerations in connection with the laying out of parkways is that of the appearance of its borders and of the neighborhood through which it passes. The designers of parkways are fully aware of this, but many citizens come to realize it only after commercial and manufacturing or other unsuitable buildings have been erected along a parkway, or after flats and apartment houses, stores and other buildings (suitable as to use but often ugly as to side and rear walls) have been erected right out to the sidewalk line. Then everyone exclaims, "What a shame!"

It does not seem reasonable, after the county and landowners have co-operated to lay out and improve a park or parkway, that the enjoyment of its beauty, in which very largely its value and justification lie, should be greatly injured by ugly things on adjoining private land.

True, the present county park commission law authorizes the Park Commission to establish building lines along parkways and to take easements on adjoining private property. But this part of the law is practically a dead letter, because the courts will not allow regulation of private land under this law as an exercise of the police power, so-called, which does not involve compensation for damages, so that the only way of acting under it is either by voluntary agreement with landowners or under the right of eminent domain, which involve the liability for paying damages for easements taken. Voluntary agreement with landowners has scarcely been tried. It is too much trouble. If landowners were favorable, some good might be accomplished by voluntary agreement in a very limited way in exceptional cases. But most landowners, being short-sighted, prefer to take advantage of the present attitude of the courts against the extension of the police power to regulation of private real estate for the good of the public in all matters of appearance. By declining to voluntarily restrict their land, the landowners apparently feel that they are better off because they retain a wider market for their land, and no doubt some also feel that if the Park Commission wishes to establish restrictions, let it pay heavily for the interference with private property rights. As long as they see "money in it," there will be some landowners who will hate to agree to restrictions for nothing. Very properly, under these conditions, the Park Commission has been so reluctant to enter upon what would be criticised as the mistaken and extravagant policy of taking and paying heavily for easements on private land, which any disinterested student of the subject would testify would, in the

great majority of cases, result indirectly in greater benefit than damage that they have done nothing.

The existing law may be ample to cover much that park designers would advise in the way of restrictions, but, as in the case of the Sherman Anti-Trust Law, it might take years and much trouble and expense to obtain sufficiently favorable court decisions under the existing law to make it easy to secure the desired regulation of the use of private property for the purpose of ensuring agreeable and suitable conditions in the vicinity of parks and parkways.

In order to make progress in the direction of protection to esthetic rights of individuals and of the public, the courts would have to reverse their past decisions that the public has no right to regulate the use of private property in the directions of appearance, under the police powers, except under the plea that it is necessary for public health or safety. The courts are, very properly, conservative and so are controlled by precedent. Fortunately there is precedent for some esthetic regulation of private real estate, especially in Europe, but mostly on the continent, whence few precedents are drawn by our courts. Broadly speaking, it is probable that the courts will ultimately extend the application of the police power to the regulation of private land in esthetic matters—that is to say, when public opinion becomes so unmistakably and powerfully in favor of it as to clearly make it inevitable. The common law has been extended by the courts more in England in the way of preventing the use of private land detrimentally to the value of adjoining land, especially as regards light and air. In this country the courts have held back in this respect and seldom help a land owner to keep up the character of a suburban neighborhood having an established character, as for instance, by enjoining the erection of a tall building with a blank, ugly side wall exactly upon the side boundary of its lot next to a suburban residence, or with its front wall exactly upon or too close to the street, or by enjoining undesirable types of buildings. No doubt the courts have been quite right in going slowly in that direction, because it is not the right method, as a matter of public policy. Each "case" is apt to be too individualistic—too much a matter of accidents, whims, sentiments and selfishness, and too little a matter of manifest public benefit.

It is questionable whether it is good public policy to depend upon this indirect way of changing the common law. It would seem to be more straightforward to get public opinion to act in this matter by means of a constitutional amendment and

laws in furtherance thereof, to the effect that the State Legislature, and through it the local governments, shall have the right to regulate the occupation and use of land in all matters of esthetics under the police power and without compensation, unless in any particular case the exercise of such right should clearly be unreasonable and confiscatory considering the existing and probable future local conditions, in which case money damages should be paid for the excess, if any, of damages above betterments.

If this were the law, it could be applied gently and soothingly at first, like the limitation of height of fireproof buildings in parts of New York, to 300 feet (200 feet in other parts), so that land owners and real estate agents, courts, referees and juries would get used to it. Before many years the restrictions would be much more severely framed and more frequently applied, especially in residential districts. Thus, in time, Essex County could be made a much more attractive and civilized place for poor people, as well as the well-to-do, to live in, and at comparatively little greater cost than that of the present haphazard, hit-or-miss way of doing things.

But even if the laws were adequate and the courts favorable, the laws would only be permissive. They would not be self-executing. Nor would public street officials, as a rule, have either time or money for executing them. The trouble begins insidiously in the custom of permitting the land owners too much freedom in subdividing and in using their land. But in the narrower field of developing a park and parkway system, it is certain that better conditions can be secured much more easily and fully and at far less cost, if the land owners will acquaint themselves with the advantages which can be secured by restrictions, and if they put themselves in a favorable attitude of mind toward them. The art of subdividing land can be made an extremely interesting pursuit and all landowners should give a due amount of attention to its advancement.

There should be no unduly exaggerated idea that the desirable restrictions would be exclusively or even mainly for the benefit of the rich and well-to-do. There would, unquestionably, be much of the parkway frontage that would be more available for the residences of families of relatively small incomes, and in some such cases there need be no prohibition of two or more family houses or of single houses in solid blocks, only it would be necessary to hold them up in construction and appearance to a reasonable standard suitable for a parkway frontage.

The law and customs should be such as

to enable the Park Commissions to establish a considerable variety of restrictions on private property in the vicinity of the parks and parkways, and perhaps also along streets in any part of the county without having to take the streets themselves.

Some of the more important restrictions may be mentioned by way of illustration, but, if possible, the right should be broadly defined in the law as covering prohibitions of all things on real estate which affect, or which, if permitted, would affect the appearance unfavorably, and also as covering such positive action by the Park Commission as removal at cost, of rubbish, rank and pernicious weeds, deserted, tumbledown or partly burned structures, and so on, after failure of the owner to do so upon notice.

This is the simplest and most frequent and most easily arranged for form of restriction. The idea has been applied voluntarily by conditions in the deeds in the case of so many real estate subdivisions that where similarly applied by public authority, it ought to cost the public nothing, except in special cases.

The ordinary practice in deeds is to have it expire by limitation in 20 or 25 years. This comparatively short period has proved, in many cases, to be exceedingly unfortunate. The result after the expiration of the restriction in many cases is that although the majority of lots are occupied by still serviceable and attractive suburban residences, a few lots here and there will come to have saloons, or stores, or tenements, or flats, or apartment houses built right out to the street line and often with ugly blank side walls and hideous rears. The effect on the neighborhood is ruinous to its good appearance.

Building limit lines ought also to be established in relation to the side and rear lines of lots facing on and in the vicinity of parks and parkways.

The right should be reserved by the Park Commission to modify, in special cases, the side and rear building limit line restrictions so as to permit semi-detached houses, garages and private stables where the lots are necessarily narrow.

Another useful restriction for the same general purpose would be one prohibiting the subdivision of land along and near parkways into lots less than 50 feet wide. A minimum of 60 feet width would be much better and would probably be agreed to in most suburban districts. In some high class neighborhoods the minimum width of 100 feet should be the rule.

Where a parkway passes through a district already subdivided, the land should be resubdivided wherever possible and in any case suitable restrictions should be established.

Another very important restriction would be one as to height of buildings. In some cases it is very much needed to preserve valuable outlooks from being more or less completely blocked by three or four-story

flats, tenement houses, hotels, factories and so on. The law should permit this restriction to be applied by the Park Commission as far from a park or parkway as may be necessary to preserve the outlook intended to be protected by it. Ordinarily the limit of height would be 40 feet in order to permit two and one-half-story houses with steep roofs, but in many neighborhoods the restriction should be so worded as to also prohibit three full stories and flat roofs. The usual result of such a restriction would be to preserve in the neighborhood the agreeable somewhat open and fairly harmonious appearance which at present characterizes Mountain avenue and other well known residential streets.

In furtherance of the idea that the land along and near certain parts of a parkway should be occupied by high class suburban dwellings, it is desirable, if the owners of the greater part of a given area of that sort are not strongly opposed, to restrict the lots to one dwelling for one family only. This restriction should be modified in sections of moderate extent when conditions change to such an extent as to make it reasonable to do so.

In some sections two-family houses could be permitted, provided the plans and specifications were required to be approved by the Park Commission, but care should be taken to prevent cified styles of two-family houses in suburban neighborhoods.

The Park Commission should have the right to prohibit objectionable advertising signs near parks or parkways. This annoyance has been felt by many, and more or less successful attempts have been made by municipalities to regulate offensive advertising, under the police power, but until a constitutional amendment gives local governments the right to regulate the appearance of real estate under the police power, with no more need of paying for its exercise than there has been for sanitary, fire and safety control of buildings, the Park Commission can take by condemnation before the land becomes valuable for advertising signs an easement prohibiting all signs that do not advertise a business conducted on the premises, and regulating even these, and where condemnation would cost too much the nuisance can be mitigated by the taxing power and by means of ordinances relating to fire

hazard and safety (as regards being blown down), and by screening plantations in front of vacant lots along some parkways.

Another important restriction is one to prohibit the sale of liquor and objectionable manufacturing, trade or business use of land within a specified distance of a certain parkway. Reasonable modifications or exceptions by permit should be made in some cases. Factories could often be covered by vines, but the Park Commission might sometimes require its approval of plans, and thus prevent particularly ugly constructions.

There are various other restrictions which should receive consideration when each parkway is being arranged for. The law should be broad enough to enable the Park Commission to restrict land fronting on or that is near a park or parkway to residential purposes and to restrict it against anything that would be injurious to that use.

The general idea is reasonable and under normal conditions it should be regarded as one to be carried out under the police power, without subjecting the county to having to pay damages. Yet there will be cases in which damages should be paid. For instance, if a singly owned 25-foot lot happens to come sidewise to the parkway and if the proposed building limit line is 25 feet or more from the parkway, the lot would be made unsaleable for building and practically unsaleable for any purpose except to the owner of the adjoining land, who, knowing the conditions, might refuse to buy it or might give but little for it; hence under existing law the lot would have to be paid for in full and retained as a park. This would usually be a case for the exercise of the right of excess condemnation, if the Park Commission is given that right, as by that means the lots could be rearranged. In case a restriction against trade would stop a going business, or would stop the use of an existing two or more family house, expense could be postponed by having a special exemption for a limited but renewable term of years embodied in the taking, in which case there would be no damage payable until the restriction should be actually enforced, as it would be when worth while, and automatically if the building were torn down or burned.

THE OBITUARY RECORD.

Oglesby Paul, landscape gardener of Fairmount Park, Philadelphia, died suddenly while on a visit to friends at Boston, Mass., on October 6. His wife survives him. Mr. Paul was a landscape gardener of ability. He laid out and improved many fine places in Philadelphia and elsewhere. His work at Fairmount Park was marked by a determined effort to turn the waste spaces to account. The parterre, or sunken garden, was only planted during the summers before his time. When Mr. Paul assumed command the

garden was planted each fall with tulips and narcissi, so that there was always a crop in the ground. The great lecture room in Horticultural Hall, used at rare intervals was turned into a cactus house. The guard room and front room in the hall were removed to give more greenhouse room. The echeveria-alternanthera dates that had ornamented the east end bank of the hall for twenty years or more were replaced by Scotch firs of dwarf habit. The new type of cannas were introduced. These are a few of the improvements made by Mr. Paul.

FIVE STATES HAVE TENEMENT MAUSOLEUM LAWS

Connecticut has just passed a community mausoleum law, which makes five states with laws to regulate the construction of the tenement mausoleum. The laws of Indiana, Maine, Vermont and Wisconsin are similar in their general provision to the Connecticut act.

The law, like the others, places the censoring of the construction and sanitary features in the hands of the State Board of Health.

The law reads in part as follows:

(Substitute for Senate Bill No. 319.)

CHAPTER 206.

An Act concerning Public Vaults, Crypts, or Mausoleums.

Be It enacted by the Senate and House of Representatives in General Assembly convened:

Construction to be approved by the State Board of Health.

Section 1. No person shall construct any vault, crypt, or mausoleum for public use, wholly or partially above the surface of the ground, to be used to contain the body of any dead person until plans and specifications thereof shall be approved by the state board of health. Such plans and specifications shall provide: (a) That such structure be so arranged that the cell or crypt may be readily examined at any time by any person authorized by law to examine the same. (b) That suitable provision be made for hermetically and permanently sealing each crypt or cell after the placing of any body therein, and in such manner that no odor or effluvia may escape therefrom. (c) That the materials of which such structure is to be constructed are to be of the best quality and of a character best suited for the purposes intended. Upon approval of such plans and specifications said board shall file a certificate of such approval signed by the president or secretary of said board, or both, with a copy of such plans and specifications, in the office of the town clerk of the town or city wherein such structure is to be erected, and said clerk shall retain the same on file.

Sec. 2. Such structure shall be erected under the supervision of an inspector to be appointed by said board, which shall determine the amount of his compensation which shall be paid by the person erecting the same. No vault, crypt, mausoleum, or structure erected as aforesaid shall be used for the purpose of interring therein any body until the person interring the same shall have obtained from said board a certificate signed by the president or secretary, or both, certifying that the plans and specifications filed pursuant to the provision of this act have been complied with, which certificate shall be filed in the office of the town clerk.

Penalty.

Sec. 3. Any person or any officer, manager, or agent of any corporation or association, violating any provision of this act, shall be fined not more than five hundred dollars, or imprisoned not more than six months, provided the provisions of this act shall not be construed so as to prohibit or apply to the construction of temporary receiving vaults.

The Indiana state community mausoleum law, the first act in this country to regulate the construction of tenement mausoleums, was passed in 1913. It is known as the Beatty Law and reads in full as follows:

Section 1. Be It so enacted by the General Assembly of the State of Indiana, that hereafter when any person, firm or corporation, shall desire to build, construct or erect any mausoleum, vault or burial structure, the same to be built or constructed entirely above the ground, or partly above and partly by excavation, and to be built, constructed and erected so that the same may contain twenty or more deceased human bodies for permanent interment, before proceeding to build, construct or erect such mausoleum, vault or other structure, shall present all plans for such con-

struction to the State Board of Health of the State of Indiana, and if approved by such board, may proceed with the construction and erection of such mausoleum, vault or other structure.

Sec. 2. All crypts or catacombs, if any be placed therein, in such mausoleum, vault or other structure, shall be so constructed that all parts thereof may be readily and easily examined by the State Board of Health or any other health officer, and such crypts or catacombs, shall be hermetically sealed after such deceased body or bodies shall have been placed therein, that no offensive or unhealthful odor or effluvia may escape therefrom.

Sec. 3. Should any person, firm or corporation, fail to hermetically seal such crypts, or catacombs, so placed or constructed in such mausoleum, vault or other burial structure, and by reason of such failure offensive odors or effluvia arise therefrom, such State Board of Health, or any other health officer of the state or county, in which such mausoleum, vault or other burial structure shall be situated, shall, upon the complaint of any resident of the township, where such mausoleum, vault or other burial structure may be situated, compel the sexton or other person in charge of such mausoleum, vault or other burial structure, to immediately remove said deceased body or bodies therefrom and properly inter the same, at the expense of the person, firm or corporation, owning such mausoleum, vault or other burial structure. And if no such person, firm or corporation can be found in county where the same may be located, then such interment shall be at the expense of the township where such mausoleum, vault or other burial structure may be situated.

Sec. 4. Any person, firm or corporation, who shall fail or refuse to comply with the provisions of this act, may be fined in any sum, not exceeding five hundred dollars, to which may be added imprisonment in the county jail, not exceeding six months.

The Maine state law regulating community mausoleums reads as follows:

An Act to Regulate the Construction of Mausoleums or Tombs to be used for Permanent Burial.

Be it enacted by the people of the State of Maine, as follows:

Section 1. Before any person, firm or corporation, shall build, construct, or erect, any mausoleum, vault or other burial structure, entirely above ground or partly above and partly by excavation, with the intention and purpose that when built, constructed and erected the same may contain twenty or more deceased human bodies for permanent interment, the person, firm or corporation shall present all plans for construction to the State Board of Health of the State of Maine, and shall obtain the written approval of said Board of such plans before proceeding with the construction and erection of said mausoleum, or other burial structure.

Sec. 2. All crypts or catacombs placed in a mausoleum, vault or other burial structure, as described in Section 1 of this Act, shall be so constructed that all parts thereof may be readily examined by the State Board of Health, or any other health officer, and such crypts or catacombs, when used for the permanent interment of a deceased body or bodies, shall be so hermetically sealed that no offensive odor or effluvia may escape therefrom.

Sec. 3. Should any person, firm or corporation, build, construct, or erect a mausoleum, vault or other burial structure, as specified in Section 1 of this Act, before obtaining the approval of the State Board of Health, as required in Section 1 of this Act, or should any person, firm or corporation, after building or constructing said mausoleum, vault or other burial structure, in accordance with the requirements of this Act, fail to hermetically seal all crypts or catacombs therein after a dead body has been placed in said crypt or catacomb, according to the requirements of this Act, the said person, firm or corporation, shall be fined not less than one nor more than five hundred dollars for each offense, and the court may order the person, firm or corporation, by whose authority said interment was made, in addition to said fine, within a reasonable time to hermetically seal said crypts or catacombs containing said deceased body, or in the discretion of the court to remove the deceased body, and bury it in some suitable cemetery, or the court may order the her-

metical sealing of said crypt or catacomb to be done under the direction of the Board of Health in the municipality where said mausoleum, vault or other burial structure is erected, and that the said person, firm or corporation, shall pay all expenses attending the said work or the removal of said body, or bodies, and the burial of the same in some cemetery, provided the said body, or bodies, can not be suitably and properly hermetically sealed in said crypt or catacomb.

Sec. 4. All fines or penalties provided by the terms of this Act may be recovered or enforced by indictment, and the necessary processes for causing the crypt and catacombs to be sealed or the bodies to be removed and buried, may be issued under the direction of any Justice of the Supreme Judicial Court, or the Superior Courts, in term or vacation time.

Sec. 5. The Supreme Judicial Courts and the Superior Courts shall have original and concurrent jurisdiction, in all cases under the provisions hereof, provided that the judges of Municipal and Police courts and Trial Justices may cause the person brought before them on complaint under the provisions of this Act to recognize with sufficient sureties to appear before the Supreme Judicial Courts or Superior Courts, and, in default thereof, shall commit them.

The Vermont law, which is known as the Pirie Act, reads in full as follows:

H. 378: Introduced by Mr. Pirie, of Williams-town: An Act relating to the erection of mausoleums, vaults or other burial structures.

It is hereby enacted by the General Assembly of the State of Vermont:

Section 1. A person, firm or corporation desiring to build, construct or erect any mausoleum, vault or other burial structure, the same to be built or constructed entirely above ground, or partly above ground and partly by excavation, and to be built, constructed and erected so that the same may contain twenty or more human bodies for permanent interment, shall, before proceeding to build, construct or erect such mausoleum, vault or other structure, present all plans for such construction to the state Board of Health, and, if approved by such Board, may proceed with the construction and erection of such mausoleum, vault or other burial structure.

Sec. 2. All crypts or catacombs, if any be placed in such mausoleum, vault or other structure, shall be so constructed that all parts thereof may be readily examined by the State Board of Health, or any health officer, and such crypts or catacombs shall be hermetically sealed after any body shall have been placed therein, so that no offensive or unhealthful odor or effluvia may escape therefrom.

Sec. 3. If a person, firm or corporation fails to hermetically seal such crypts or catacombs, so placed or constructed in such mausoleums, vault or other burial structure, and by reason of such failure offensive odor or effluvia arise therefrom, the State Board of Health or the health officer of the town, village or city in which such mausoleum, vault or other burial structure is located, shall, upon the complaint of any resident of such town, village or city, compel the sexton or person having charge of such mausoleum, vault or other burial structure, to immediately remove the body or bodies therefrom and properly inter the same at the expense of the person, firm or corporation owning such mausoleum, vault or other burial structure. If no person, firm or corporation can be found then such interment shall be at the expense of the town, village or city where such mausoleum, vault or other burial structure is located.

Sec. 4. A person, firm or corporation who fails or refuses to comply with the provisions of this Act shall be fined not more than five hundred dollars.

The Wisconsin law was approved June 10 and is similar in a general way to the laws of Indiana, Maine and Vermont. The Wisconsin act, however, was modified somewhat from the original draft at the suggestion of the Secretary of the State Board of Health, who co-operated in getting the bill passed. The law reads as follows:

No. 684, A.]

[Published June 14, 1915.]

CHAPTER 213, LAWS OF 1915.

AN ACT To create Sections 1455—1 to 1455—4, inclusive, of the statutes, prescribing the conditions and restrictions under which public vaults, crypts or mausoleums for the permanent entombment of human bodies, may be constructed, and fixing penalties for failure to comply therewith. The people of the State of Wisconsin, represented in senate and assembly, do enact as follows:

Section 1. There are added to the statute four new sections to read: Section 1455—1. No person, firm or corporation shall build, construct, or erect any mausoleum, vault, crypt or structure intended to hold or contain dead human bodies, which shall be wholly or partially above the surface of the ground, except in compliance with the rules and regulations of the State Board of Health governing their location, materials and construction. The State Board of Health is hereby authorized and empowered to adopt and enforce such rules and regulations governing the location, materials and construction of mausoleums, vaults, crypts or other similar structures; provided the proper local officials of any township, incorporated village or city shall have the authority to make and enforce such additional ordinances, by-laws, rules or regulations as they may deem necessary not inconsistent with this act or with any rule or regulation adopted or prescribed by the State Board of Health.

Before commencing the building, construction or erection of the same, full detailed plans and specifications of such structure shall be presented to the State Board of Health for its examination and approval. The approval of the said plans and specifications by the State Board of Health shall be evidenced by a certificate in writing, signed by the executive officer of the said Board.

Section 1455—2. The State Board of Health shall have supervisory control over the construction of any such mausoleum, vault, or crypt, and it shall be the duty of said Board to see that the approved plans and specifications are in all respects complied with. No departure or deviation from the original

plans and specifications shall be permitted, except upon approval of the State Board of Health, evidenced in like manner and form as the approval of the original plans and specifications.

No mausoleum, vault, crypt or structure so erected as aforesaid shall be used for the purpose of interring or depositing therein any dead body until there shall have been obtained from the State Board of Health a final certificate signed by the executive officer of the Board, stating that the plans and specifications as filed, have been complied with, and that the maintenance fund required by this Act has been deposited with the proper city or county official.

Section 1455—3. There shall be deposited with the city treasurer or where said mausoleum, vault or crypt is to be erected in territory not under the jurisdiction of any city, then with the county treasurer of the county in which such mausoleum, vault, crypt or structure is to be constructed, a maintenance fund in such sum as shall be determined and fixed by the said State Board of Health, which said fund shall be held and invested by said city or county treasurer for the benefit of and care for such mausoleum, vault or crypt and the income thereof paid annually or less frequently as the cemetery or other committee having in charge such mausoleum, vault or crypt may require for the care and up-keep of said structure.

Section 1455—4. Any person, any member of a firm, or any officer, or director of a corporation, failing to comply with each and every provision of this Act shall be personally liable therefore, and shall, upon conviction thereof, be deemed guilty of a misdemeanor. Violation of any of the provisions of this Act shall be punishable by a fine of not less than one hundred dollars nor more than five hundred dollars or by confinement in the county jail not less than ten days nor more than six months or by both such fine and imprisonment. This Act shall not apply to any mausoleum now in process of construction.

Section 2. This Act shall take effect upon passage and publication.

Approved June 10, 1915.

MAKING LIME-SULPHUR SPRAY.

Investigations for the purpose of encouraging sprayers in the preparation of lime-sulphur concentrates for their own use have led to the wide use of this spray material, says the United States Department of Agriculture Bulletin No. 197, "Home-made Lime-Sulphur Concentrate." It is of relatively little importance, except for economy in storage space, how dense or heavy a concentrated solution is made, because it can be readily diluted in conformity with the purpose for which it is to be used.

One of the home-made cooking plants used in the experiments consisted of a 12-horsepower boiler from which steam was conducted into two 50-gallon barrels. No

coils were used in the bottoms of the barrels, the steam being emitted through the open end of a straight pipe extending within a few inches of the bottom of the barrel. Small batches of the 50-100-50 formula, amounting to 25 gallons of the finished product, were cooked at a time. About 20 gallons of water were put into the barrel, the steam turned on, and the water brought to the boiling point. The lime was then put in, and after it had begun to slake the sulphur was added. The mixture was stirred thoroughly throughout the time of cooking, which lasted an hour. It was allowed to settle about 12 hours and then the clear solution was siphoned off. The sludge or sediment was put into

a cider press and the clear solution pressed out, using 10-ounce canvas cloth for filter. In these experiments commercial ground sulphur and a good grade of lime was used.

The 50-100-50 formula, meaning 50 pounds of lime, 100 pounds of sulphur and water to make 50 gallons of the concentrated solution, has generally been recommended for the preparation of home-boiled concentrated lime-sulphur solution. A good grade of fresh limestone, containing not less than 90 per cent calcium oxide, is necessary for the best results. Hydrated lime is sometimes used, but it is necessary to obtain a good grade and at least 20 per cent more of this form of lime, as it contains a high percentage of moisture.

The process is described in detail in the bulletin mentioned above.

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O. H. SAMPLE, Editor.

Sworn to and subscribed before me this 14th day of September, 1915.

[Seal] CHAS. L. FAHNESTOCK,

Notary Public.

(My commission expires Feb. 24, 1918.)

CROWN HILL, DENVER'S MODERN BURIAL PARK

We have before emphasized in these pages that one of the most important duties of the visitors to Denver and the West is to see the beautiful cemeteries and the fine monuments of that city.

The two leading cemeteries of Denver, Fairmount and Crown Hill, are among the most highly developed in the country and each of them has unique and interesting attractions that make them noteworthy examples of the development of landscape and cemetery art.

Fairmount was recently described in these pages and the views of Crown Hill Burial Park, the newer of Denver's modern cemeteries, illustrated here, show what

can be accomplished by modern, intelligent methods pursued from the start.

Crown Hill had the advantage of many older cemeteries in the country that started before modern ideas of cemetery development were in vogue, in that it started on the complete lawn plan from the first interment. The grounds and all lots and single graves are under perpetual care.

Every problem of development was carefully considered in the light of the best modern practice from the beginning and there is no better located burial ground in the whole Rocky Mountain region, from the standpoint of drainage, accessibility and scenic views of the Rockies.

The main esplanade extending through the grounds, and the unique landscape effects along the boulder-banked brook that may be seen in our pictures show what results in development have been accomplished.

The Crown Hill Cemetery Association was organized in 1907 by George W. Olinger, the present president, and Verner J. Davis, present superintendent, with others. Sam A. Alexander is the present manager. Their grounds consist of 290 acres of high lands, four and one-half miles from the heart of Denver, with the snow-capped Rockies in the background. The cemetery is reached by electric tramway



ITALIAN VILLA OF PRESIDENT OLINGER, OF CROWN HILL BURIAL PARK; JUST OUTSIDE THE GROUNDS.



ON THE ESPLANADE, CROWN HILL BURIAL PARK; SNOW CAPPED ROCKIES IN BACKGROUND.

and good automobile roads. There is a private water system, with storage lake and reservoir. The water has direct pressure from powerful pumps and a fall of 85 feet from the storage tank to the lower part

of the grounds. Warranty deeds are issued for all grounds from one-quarter lot up and interment certificates for single graves. The total burials to date number 3,500.

The superintendent's residence, including the office, is just inside the grounds. The company owns and operates its own greenhouses, and the grounds are liberally supplied with flowers and shrubbery.



THE BROOK AND SUPERINTENDENT'S RESIDENCE, CROWN HILL BURIAL PARK, DENVER.



SCENE JUST INSIDE MAIN ENTRANCE TO CROWN HILL BURIAL PARK, DENVER.



THE ESPLANADE, CROWN HILL BURIAL PARK, DENVER.



SUNKEN GARDEN, CROWN HILL BURIAL PARK, DENVER.

LANDSCAPE SETTING FOR FINE MEMORIAL

Mary Baker Eddy Memorial, now under way. An imposing architectural structure with a carefully planned landscape setting; work carefully studied by models in outdoor setting.

There is under construction in Mount Auburn Cemetery, Cambridge, Mass., one of the most interesting architectural memorials in the country that is to have a landscape setting among the finest that have

free in treatment and not at all conventional, yet the effect obtained on a plaster model of full size, recently built, is generally very classic in feeling. The extreme width of the memorial is about 50 feet,

form slightly above the natural grade, from which platform a double flight of steps leads to a lower platform at the lake's edge. The scheme has no prototype and is merely a screen of columns open to



ACCEPTED DESIGN FOR MARY BAKER EDDY MONUMENT, CAMBRIDGE, MASS.
Egerton Swartwout, Arch.

ever been given to a cemetery memorial.

This is the monument to Mary Baker G. Eddy, the founder of Christian Science, and is being erected by contributions of her followers throughout the country.

The illustration on this page is from the accepted design for the monument by Egerton Swartwout, architect, of New York City. The memorial, including a fund for its future maintenance, is estimated to cost \$110,000. A general contract for its construction has been let and the work has actually been begun.

The material to be used for the memorial is Bethel white granite from the quarries of the Woodbury Granite Co. at Bethel, Vt., the inscription in the frieze and upon the top of the pylons being of white bronze set deep into the stonework. The detail, which on account of the size of the reproduction is only indicated, is entirely floral in form and free in treatment, the wild rose and the morning-glory being used as the main motives. It is interesting architecturally to note that while it is extremely

and the colonnade is 18 feet in diameter. The columns themselves are 15 feet in height and are similar in general character to those in the Clepsydra of Andronicos of Cyrrhus.

The scheme for the memorial has been developed entirely by the use of models. At least three complete models on a small scale have been made, and a model in plaster of full size was built out of doors in the modeler's yard. The profiles of the moldings and the ornamentation have been carefully studied.

The site is not only one of great natural beauty, but on account of its grade has rendered possible a more picturesque and interesting treatment architecturally than would be possible on a perfectly level lot. The plot, which is approximately 80 feet square, slopes gradually from the level of the roadway to the lake with a drop of about 10 feet. The memorial consists of a circular open colonnade of eight columns, resting upon a stylobate of three steps, surrounded on the front by a circular plat-

form slightly above the natural grade.

The plot of ground on which the memorial will be located includes 4,333 square feet. The memorial itself will cover about 1,556 square feet. The plot is located in the northeast corner of the cemetery, on Halcyon Lake, facing Halcyon avenue and near Viburnum avenue. Halcyon Lake is already in existence and has been so long as to be almost a natural body of water. The inscription for the monument has not yet been finally chosen.

Elbert S. Barlow, of New York, is the general contractor for the granite work, which will be cut and set by George Brown & Co., 286 Fifth avenue, New York. The carving will be done by Menconi Brothers, 335 W. Twenty-fourth street, New York.

Mr. Swartwout is one of the best-known architects of the day. He is responsible for the design of the George Washington Memorial for Washington, the new Missouri state capitol, the new Federal building in Denver, Colo., and many other important works.

COMPRESSED AIR FOR PARK AND CEMETERY USE

The use of compressed air is becoming more and more general in many fields. Its adaption to use in parks and cemeteries may be considered one of the latest applications, but already many of the larger cemeteries and parks have found use for such machines.

The ordinary city or government park and even cemeteries have to contend with rock formation from time to time. Sometimes in the building of a road blasting must be done. At other times field stones lying exposed must be split or blasted apart. At still other times there are menacing rocks or ridges which may be overhanging paths. These must be removed.

The old way of doing this was to drill them with hand drills, putting two men to work. In most of these cases it is not possible to drill more than from ten to fifteen feet of holes per day. With an air drill operated from one of the new portable machines the drilling can be done by one man at a rate of from 125 to 200 feet of holes per day.

Some cemetery companies have also adopted the power method. The Maple Grove Cemetery, of Brooklyn, N. Y., was forced to get such an outfit to take care of the many rocks which they encountered. If a large rock was encountered in the digging of a grave, then instead of digging a large, ragged hole to remove the stone, it is only necessary to drill several holes into it and split the objectionable part away.

The same equipment with a different drill is used for drilling into tree stumps preparatory for blasting.

In the cemetery the same machine is put to splendid use during the winter months for breaking away top soil which is frozen. With a fairly long drill bit the operator drills into the frozen ground and after the

drill is into the ground about eight or ten inches he uses the drill and tool as he would a crowbar. This is very effective.

This compressed air machine has also been put to work for ramming or tamping down the loose ground after a burial. This prevents the settling a short time after the grave has been fixed up.

Perhaps the most profitable use for the outfit in the cemetery is in lettering or repairing monuments in the cemetery. As every reader knows, there are many letters on monuments which cannot be cut as well by hand as they can by a pneumatic tool. The monument dealers who are up to date have equipped their shops with compressed air outfits and the manufacturers of the machine illustrated here have close to seven hundred machines used for lettering and carving purposes. So necessary are pneumatic tools to the making of a perfect job that in a large number of cases the monument dealer will go to the trouble and expense of taking a heavy team and several men and will take part of the stone away from the cemetery and remove it to his shop, where he can do the work properly. This last-mentioned operation, of course, is more or less injurious to lawns.

Now, if this same operation were done on the monument in the cemetery by means of a portable pneumatic plant, it would save this damage. It would do away with the view of the unsightly base for a period of many days. It would mean that the job would be done well and done speedily.

If our readers will go to any of the nearby granite shops and ask the workmen as to the desirability of machine-cut letters they will all answer that they are much better than hand-cut letters. They will all admit that if they had a choice they would select the pneumatic tool method for cutting letters in the cemetery, rather than

move the stone or attempt to cut them by hand.

The trouble is that there are perhaps several dozen monument dealers represented by the work in the average cemetery. They cannot all afford to take their machines to the cemetery and in a good many cases they cannot afford to get a machine because they do not have enough work of this character to do.

It is to help these various monument dealers get the work out better that it will become necessary to have a pneumatic machine in the larger and better equipped cemeteries. The basis on which the monument dealer will be able to get the machine depends upon local conditions. Owing to the fact that the ordinary carving or lettering job can be done in one-half to one-third of the time taken by hand, it has been found that \$5 for an eight-hour day is a reasonable charge.

To enable the cemetery to have work of this character done as speedily as possible, larger cemeteries might easily find it profitable to own a portable pneumatic plant and rent it to monument dealers for cemetery lettering and at the same time have it on hand for any of the various cemetery uses enumerated above. The machine could thus soon be made to pay for itself, the basis of charges for the rental of the machine depending upon local conditions.

The manufacturers of the portable outfit illustrated here, Messrs. Chris D. Schramm & Son, York avenue and Fourth street, Philadelphia, have an interesting proposition of this character that they will be glad to explain. This particular outfit, which has so many uses in and about a cemetery, has been on the market for some years. Each machine is put out on free trial with the regular guarantee of one year. Tools and equipment will be loaned until the machine has proven its worth.



PORTABLE COMPRESSED AIR PLANT DRILLING ROCK IN PALISADES PARK, OPPOSITE NEW YORK CITY.



COMPLETING INSCRIPTION ON MONUMENT IN CEMETERY WITH PORTABLE COMPRESSED AIR PLANT.

SUGGESTIONS FOR FALL PLANTING



BULBS IN ROCK GARDEN, MT. HOPE CEMETERY, ROCHESTER, N. Y.

BULBS IN BORDER PLANTING.

Perennial borders and rockeries which are ordinarily bare and unattractive until late in the spring are made objects of rare beauty in some parks and cemeteries by the judicious planting of spring flowering bulbs. Some idea of what was accom-

plished in this way last spring in Mt. Hope Cemetery, Rochester, N. Y., may be had from the illustrations on this page, planted under the direction of John W. Keller, superintendent of Mt. Hope. Crocuses, grape hyacinths, Jonquils, narcissi, tulips

(early and late), hyacinths and other harbingers of spring made most attractive borders and were followed in their season by hardy perennials. These beds are usually prepared in October and November and in the extreme South as late as December.

PREVENTING DEATH OF CLEMATIS PLANTS

The sudden dying of clematis plants, especially where the large-flowered kinds are grown extensively in America and Europe, has been noted for many years, and the cause and methods for prevention of this disease have recently been reported in the *Journal of Agricultural Research* of the United States Department of Agriculture, by W. O. Gloyer, of the New York Agricultural Experiment Station at Geneva, N. Y. This investigator found that the primary cause of the dying of these plants is a fungus known as *Ascochyta clematidina*.

The disease shows itself differently on various species. On hybrids grown in the field it is a stem-rot, while at the greenhouse, where cuttings are propagated, it is a leaf-spot as well as a stem-rot. On the clematis *paniculata* the disease takes both forms.

The following methods for controlling this fungus are recommended:

There is less disease when the hybrids are supported while growing than when they are permitted to trail on the ground. In the case of the clematis *paniculata*, however, the selling price of this variety does not warrant incurring the expense of supports. The author in this case advises transplanting the plants from the beds to the open field after the first year and placing them far enough apart to prevent matting, which is always a condition favorable to the disease. The following spray applied lightly controls the disease on clematis *paniculata* growing in the beds and on cuttings in the greenhouse: One pound of laundry soap and six pounds of sulphur to fifteen gallons of water. The disease can be controlled on the hybrids in the forcing frames or in the greenhouse by

the use of sprays. In all cases it is best to remove the diseased leaves and dead vines before spraying. It is particularly important to clear out such leaves and vines, especially if the plant is wintering outdoors, as the fungus is able to survive cold weather. This indicates also that the same beds should not be used for clematis during successive years.

The retail purchaser of clematis can prevent the dying of plants by taking proper simple precautions. The plants should be placed in good soil, well drained and on a sunny exposure. As soon as the new shoots have formed the old vine tissues should be carefully cut away close to the new shoots, removing all traces of the brown, discolored wood in which the fungus is to be found. Proper ventilation is obtained by training the plants to a strong trellis.

SOME STOCK MONUMENT FORMS RE-DESIGNED

Suggestions for improving the contours and simplifying the decorations of some poorly designed stock monuments, by J. W. Wyckoff.

Too many monuments are evidently designed like Fig. 1, with a hammer and chisel, seemingly, by the workmen with no knowledge of form, proportion or decoration.

If a cheap monument with some semblance of form were wanted, Fig. 2

might be made by cutting off the ocean waves and placing very simple decoration on the face.

If one would use such a simple form and place different kinds of flowers and leaves over the surface, the result would be something like Fig. 1. But

here every line is simple and there are not many of them, which results in a dignified whole. Such simple decoration is practical for both hammered and polished work; it is shown hammered with the decoration sunken. It could be used polished in the same manner, although

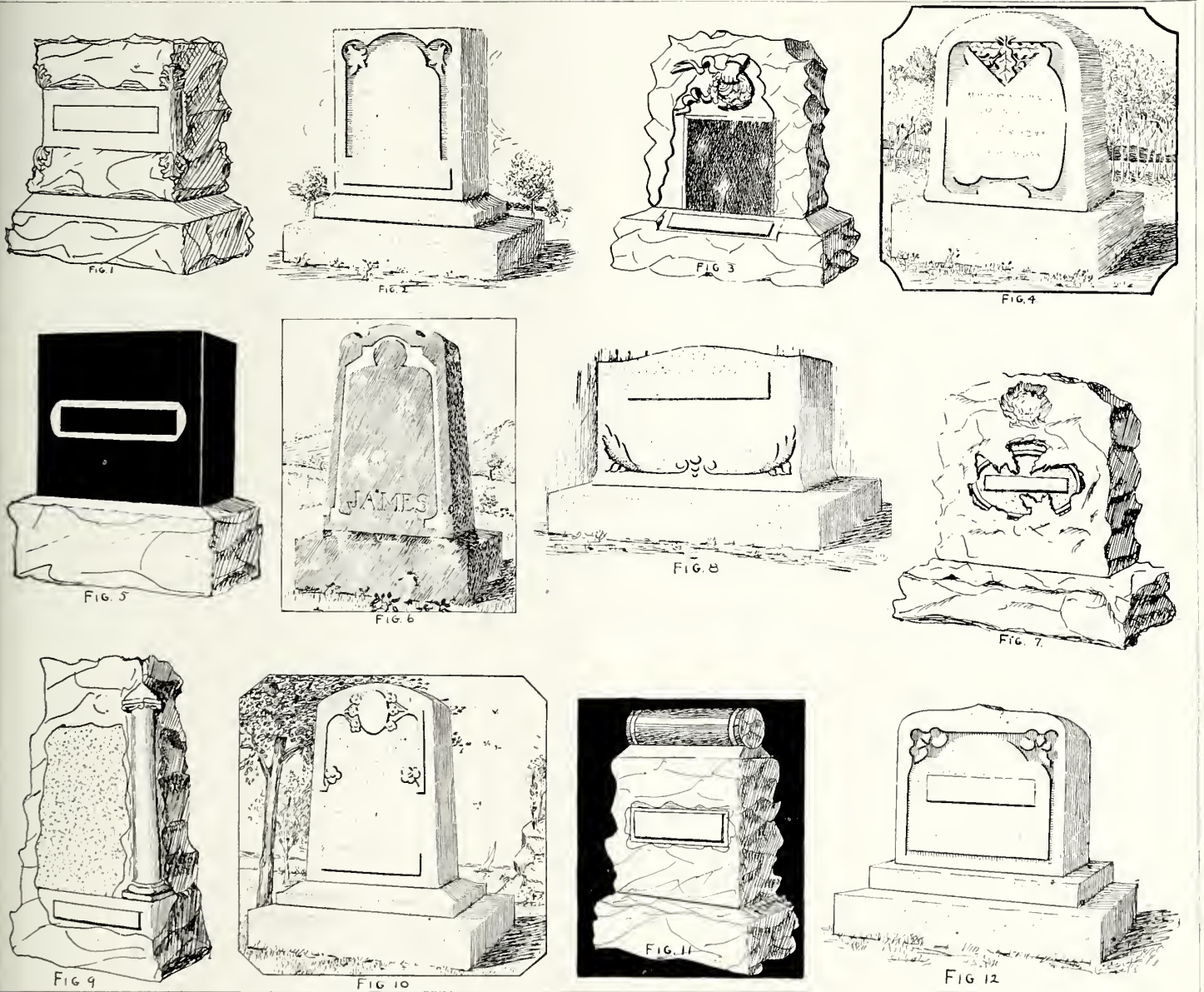
if the polished stone was dark the decoration would show light. The form and width of bases seem to bother the untrained designers. They generally make them too narrow and too high, which always helps the job to look dumpy. Always give the washes good long measurement and do not drop them so sharply.

Fig. 3 is another thing from one of the stock books of monumental designs. It was evidently thrown together without any knowledge of the principles of

ple lines that are in harmony with the contour of the stone. Three oak leaves, placed in a decorative manner like Fig. 4, are simpler and much more beautiful than the attempt to decorate like Fig. 3. The reason for this is: The leaves and the sunken decoration are in harmony with other parts of the stone and are so simple that they are seen and understood at once. This job can be cut as cheaply as the other. The cost of hammering will, of course, be more than the Bull set work, but the carving would

results would have been satisfactory. It does not take any knowledge to make a square polished block, but it does to decorate it, also to place under it a base that will not spoil the looks of it.

At Fig. 6 is a design with about the same amount of stone as Fig. 5. The top of the die is simply cut with a proper base under it and a simply traced panel on the die. It is much different in appearance than the other. About the same sized base is used as under Fig. 5. The die is in a different shape



SUGGESTIONS FOR IMPROVING CONTOURS AND DECORATIONS OF SOME STOCK MONUMENTS.

design. With some regard to design form it might have been rendered somewhat like Fig. 4. He would have used the same size stone, and the first thing would have been to cut off the part that the ignorant man labors so much with—the beautiful rock waves. At once he would have a surface to design on. Then, instead of having a conglomeration of bands, flowers and ribbons, with a zigzag enclosure, he would draw sim-

ple lines that are in harmony with the contour of the stone. Three oak leaves, placed in a decorative manner like Fig. 4, are simpler and much more beautiful than the attempt to decorate like Fig. 3. The reason for this is: The leaves and the sunken decoration are in harmony with other parts of the stone and are so simple that they are seen and understood at once. This job can be cut as cheaply as the other. The cost of hammering will, of course, be more than the Bull set work, but the carving would

be less, as it would require much less work to cut three leaves in low relief than to cut a band, a wreath and flying ribbons raised high. The monument business would be better off if we had more real designers and fewer carvers to cut bad designs.

In Fig. 5 we have simplicity all right, but in the wrong way. If this could have been decorated similar to Fig. 2 and a better proportioned base used the results would have been satisfactory. It does not take any knowledge to make a square polished block, but it does to decorate it, also to place under it a base that will not spoil the looks of it.

At Fig. 6 is a design with about the same amount of stone as Fig. 5. The top of the die is simply cut with a proper base under it and a simply traced panel on the die. It is much different in appearance than the other. About the same sized base is used as under Fig. 5. The die is in a different shape

marble or granite is, it will never be black when the light can strike it. It could be black only when no light strikes it. When in the light, one side is always lighter than the other, and there are always small places where the light is strongest that are very light. Dark Quincy granite when in the cemetery is about the color of Fig. 6, which shows that there is some light and air around it. When this is drawn in that manner with a light colored landscape around it to represent sunlight, good results are obtained in contrast, which makes the stone show to good advantage.

Fig. 7 is a pile of stone that someone has placed in a cemetery. Then it was photographed and reproduced in a design book. The curious thing about this is that someone has been trying to make decoration by placing the rock in different points, "large and small," over the elliptical panel. In contrast to this is Fig. 8, which has well proportioned parts and simple decoration. There is much less labor to design this than the other. The reason is its simplicity. All that is required when the stone has been squared up is to cut a very simple curved top and simple flowing decoration, and a well proportioned base. To look at Fig. 7 one would think all new forms of design had been used and the designer was striving for something lost and could find it only in the rough rock.

The originator of Fig. 9 certainly did something different, and it surely is original in its ugliness. The idea of cutting a column at a corner of a chunk of rock is surely new to all principles of design.

The rock would probably have looked better in its natural state as it came from the quarry. Fig. 10 would cost very little more than the one with the column. It should not take a man very long to learn how to draw such a simple form as the die of this monument, but it does take a great deal of an education with your eyes to know how to keep it in good proportion, so that it will look good when placed on a base or bases; two bases would look better than one, and one base must be higher than the other and the contour different at the bevels; this insures contrast of line. A simple decoration like this could be carved quickly and properly done.

Fig. 11 is one of those common graveyard things with a large sausage on top to hold it down. This has been on the market for years because it is so cheap! About the same amount of stone has been used in Fig. 12 and the same number of pieces, but here a base has been used instead of the sawed-off column. It is placed upon a bottom base to give the die a more substantial support. The die is simple in contour and decoration. One general suggestion for improving such stock forms as these is to quit trying to make ocean waves on the stone. Cut all this off and try to make long, simple decorative lines that will be in keeping with the contour of the monument. Forget how leaves and flowers grow naturally and place them more conventionally in a manner that is simple and easy to cut. Think more of beauty of line and less of the carver's work. Design every form and line with simplicity, neatness and beauty.

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department.

Monument Foundations.

Editor Asked and Answered: Can you inform me what cemeteries, if any, require or permit the foundations for monuments to be about two inches smaller than the base, the idea being to insure a good growth of grass? Do most cemeteries require a foundation six feet deep for a grave cover six or eight inches thick? If a foundation is required to be the full size of the base when the wash is five or six inches, should it still be full size when the wash is made ten or twelve inches?—K. W., Ia.

I do not know of any cemeteries permitting foundations to be two inches smaller than the base of a monument, but there may be such. Graceland requires all foundations to be not less than five feet deep on account of frost. Where the weight is not very great, five feet is considered sufficient, but where the weight is

excessive, as with a tall obelisk, a depth of six feet may be required. Our theory is that the foundation should be the same size at the top as the base of a monument or headstone. The reason for this is that frost might raise the base if it projected over the foundation and the width of the wash on the base would make no difference.

I enclose a copy of "Rules for Stone Work," but the rule regarding sizes of foundations is not stated. In the general rules contained in the deed, however, it is provided that "each foundation must be of the same width and length as the stone resting upon it and must be built so that such foundation shall not project above the surface of the ground and must extend as low as the bottom of the grave. All foundations shall be built by the company at the expense of the lot owner and fifteen days' notice must be given for the

building of the foundations. The cost of same must be paid in advance.

O. C. SIMONDS,
Chicago, Ill. Graceland Cemetery.

Following are the rules for stone work in Graceland Cemetery:

1. No stone work of any kind shall be admitted to the cemetery, or foundation built for the same, until a design for such work shall have been submitted to the Superintendent and approved by him.

For headstones or footstones, a sketch on the back of the foundation order will be deemed sufficient; for monuments, designs drawn to a scale must be furnished, accompanied by a certificate signed by the lot-owner and contractor stating that so far as they know the design submitted is not a duplicate of any now in the cemetery.

The above rule is made to save stone-cutters the loss which they would otherwise suffer from executing a design not in accordance with the rules of the cemetery.

2. Mausoleums can be built only when the designs and locations for them have been approved by the Board of Managers.

3. All foundations shall be built by the Cemetery Company. They must be ordered fifteen days before needed, and must be paid for in advance.

The charge for foundations will be 35 cents per cubic foot with a minimum price of \$3.00 per foundation. An extra charge of 5 cents per cubic foot will be made for foundations built when the ground is frozen.

4. No coping, or any kind of lot or grave enclosure, or steps to lots, will be admitted to the cemetery.

Corner posts for lots are furnished and set by the cemetery company, at the expense of the lot-owner.

5. In certain portions of the cemetery no monuments will be permitted. These portions at present are: Maplewood Section, lots 76 to 111; Resubdivision of Section M, lots 38 to 41 and 53 to 109; Fairlawn Section, and lots 465 to 524 and 764 to 789; Bellevue Section, all inclusive, and all small lots in other sections, and the single graves.

On lots 533 to 561, 574 to 599, 611 to 633, 643 to 665, 674 to 697, 706 to 729, and 736 to 819, inclusive, Bellevue Section, monuments when allowed, must not exceed eight feet in height.

6. When not otherwise provided, grave markers even with the ground will be admitted providing they are not more than 30 inches wide, not less than 6 inches, nor more than 15 inches thick.

Exceptions may be made to this rule on lots where there are existing markers which have been admitted in accordance with the last previous rules adopted by the Board of Managers.

For single graves, markers must not exceed the width of the grave—18 inches for children's and 30 inches for adults' graves, and must be level with the ground.

In no part of the cemetery will more than one marker be allowed at a grave.

7. No monument or grave marker shall be constructed of other material than cut stone or real bronze.

No monument or grave marker will be admitted which is cut in imitation of a log or stump, or of any other object which would itself not be allowed to remain in the cemetery.

8. Persons engaged in erecting monuments or other structures are not permitted to attach ropes to other monuments, or to trees, or to scatter material over adjacent lots or to leave the same on the ground longer than is absolutely necessary. They are required to set their work as soon as possible after it enters the cemetery, and will be held responsible for any damage done to the grass, trees, or any object whatsoever in the cemetery, and must be subject to the control and direction of the superintendent. On Saturdays and on the day before Decoration Day, no material of any kind will be admitted to the cemetery after twelve o'clock at noon.

9. The managers reserve the right to make exceptions to the foregoing rules in favor of designs which they consider exceptionally artistic and ornamental, and such exceptions shall not be construed as repealing any rules.

The superintendent is directed to enforce the foregoing regulations, and to exclude from the cemetery any person wilfully violating the same.

10. Special rules for certain sections may be made at any time hereafter by the board of man-

agers, and enforced without previous notice to stone-cutters.

Following is a copy of the rules governing foundations at Mount Auburn Cemetery, Berwyn, Ill.:

Every foundation must be at least as wide and as long as the base stone resting upon it, and must not project above the surface of the ground. Foundations for headstones must extend as low as the bottom of the grave. Foundations for monuments with a base four feet square, or less, must extend at least four feet below the surface, and for monuments with a base over four feet square, the depth of the foundation must not be less than five feet. All foundations are two inches below the surface.

Problems of Cemetery Finance.

Editor Asked and Answered: As a business man who is considering investment in a cemetery property, I should like to ascertain just what profit one may be entitled to expect from an investment in a cemetery which is well situated, properly laid out and carefully managed, and should be greatly obliged if you can give me approximate replies to the following questions: If each year we sell 100 lots of 144 square feet each for the gross sum of \$10,000, how would you apportion that amount between the following headings: What proportion for perpetual care? What proportion for general overhead expense? What proportion for maintenance and improvement? What proportion for cemetery extension repayment fund if land cost \$2,000 per acre?

Trusting that your prompt reply will enable me to decide whether or not to enter the cemetery business.—W. O., Can.

This inquiry is like a great many others coming from people who are trying to operate a cemetery without having any knowledge of the business, and it is impossible to answer intelligently. For instance, the item of general overhead expense is something that is fixed by conditions under which the cemetery is being operated, and there is no choice as to how much shall be set aside for covering that expense which has got to be paid, and a sufficient amount must necessarily be set aside to pay it. No person can advise as to what this amount shall be unless he knows what the overhead expense is.

The amount to be set aside for maintenance and improvement will depend entirely on the area of the cemetery, the extent and type of improvement to be made, and the nature of the general care given.

As to the item of cemetery extension repayments, the writer frankly confesses that he does not know what that means.

Apparently your correspondent is selling ground at an average price of 75 cents per square foot. The determining of the amount to be set aside for perpetual care will depend entirely on local conditions and what care is supposed to be given. In a general way I would say that an absolute minimum of 15 per cent of the gross receipts could be made with careful management to give some sort of care. Twenty per cent would be better, while many of the better type of cemeteries are setting aside

an amount about equal to 60 per cent of the amount specified by your correspondent and in some cases 75 per cent.

I strongly urge upon your correspondent to secure the services of some competent and experienced cemetery expert who will visit the place, make a study of the local conditions and advise with the management about the matters submitted and other things which may come up. Whatever may be paid for the services of such a man will undoubtedly be saved many times over in the future. W. N. RUDD,

President, Mt. Greenwood Cemetery.
Chicago, Ill.

The "Interested Business Man" puts his questions in a very intelligent form. I confess, however, my utter inability to answer them. I believe that even approximate answers depend so much upon local conditions that they should be attempted only after a very thorough and careful study. For this cemetery he who answers them must have a clear vision reaching at least one hundred years into the future.

FREDERICK GREEN,
Clerk, Treas. and Supt., Lake View Cem.
Cleveland, O.

The questions of a business man in regard to proportioning the funds of a cemetery has been read and studied several times, but as yet we have not had time to compile a satisfactory answer. Some of these topics, especially perpetual care, were discussed in the last article of our series. Perpetual care is a matter of square feet and acres, rather than proportion. Some of the questions are very difficult to answer without assuming a certain size cemetery, with a certain amount of land to be developed at first and the remainder to be improved from time to time, several years in advance of sale.

We will try to give the subject more attention within the next few weeks and try to formulate an intelligent answer.

HARE & HARE,
Landscape Architects.
Kansas City, Mo.

I am afraid that I can't give our friend, the business man, very much help. For perpetual care we set aside 20 cents a square foot from the sale price of the lot, or rather we add that much to it. Our overhead and maintenance of buildings, fences and roads just about equal the cost of labor and material. I do not know anything about cemetery extension repayments, as that was all righted and passed into history in our cemetery a great many years ago. It strikes me that the brother could get a lot of information out of Mr. Hobart's address before the Buffalo convention, on "Accounting for Cemeteries," published in *PARK AND CEMETERY* in November, 1913.

LEROY CHRISTIE,
Supt., Ottumwa Cemetery.
Ottumwa, Ia.

Correspondence Instruction in Cemetery Planning.

Editor Asked and Answered: If you have a small folder or cheap publication containing information upon the organization of cemetery associations in villages of 150 to 250 population, I should like to get a copy. An acquaintance informs me you have such a publication, which he is under the impression you put out at 10 cents. — B. S., N. Y.

There is nothing in the nature of a booklet that would tell you how to lay out a cemetery; in fact, there is nothing in print that would be of any assistance to you. You ought by all means have an expert cemetery landscape architect make a report and a plan for your individual proposition, and the first money you spend should be spent for this purpose. Any of those advertising such service in *PARK AND CEMETERY* could give you assistance.

Cemeteries and Street Improvements.

Editor Asked and Answered: Can a city compel a cemetery association to lay sidewalks and build storm sewers on streets adjoining the cemetery? Every lot owner is a member of the association, as it is not run for pecuniary returns.—T. R., Ill.

This cemetery has paid for sidewalks and for street pavements, on streets abutting the cemetery property, being about 1,500 feet. Our property was equally assessed, the same as other real estate, for public highways and sidewalks.

THE WALDHEIM CEMETERY CO.
By Jacob Schwab, Supt.
Forest Park, Ill.

From my experience as a cemetery superintendent, I believe a city has the right providing the improvements are made by special assessment and a special benefit to the cemetery as well as to the other property owners, and if a petition signed by a majority of the property owners abutting on such street was presented to the city where such improvements are to be made. A public highway which is improved with a permanent improvement is a special benefit to all adjoining property, whether cemetery or otherwise. In my estimation, payment should be made by the cemetery whether the same is run for pecuniary benefit or not, and if all the lot owners are members of the cemetery association a pro rata assessment should be made by the cemetery trustees against every lot owner, if no money is on hand by said trustees for the payment of such improvements contemplated.

GEORGE SCHRADER,
Mount Auburn Cemetery.

Berwyn, Ill.

Treating this question as inquiring whether cemetery property may be subjected to local assessment for the improvements named, it would seem that the question must be answered in the affirmative, so far as the laws of Illinois are concerned, in the absence of any express exemption in the charter of the association.

In the case of *The Bloomington Cemetery Association vs. The People of the State of Illinois*, 139 Illinois Supreme Court Reports 16, it was decided that a clause in a charter of a cemetery association to the effect that the grounds held for a burial place be exempt from "taxation and executions," did not protect the lands against a special assessment or a special tax for local improvements, nor deprive the County Court of its power to order the lands sold for a delinquent special tax. The court said:

"That exemption from the general taxation will not protect property against special assessment or a special tax for local improvements has been repeatedly decided by this court. Nor does the fact that this land may be exempt from execution deprive the County Court of the power to order it sold for a delinquent special tax. * * * It is not shown that any part of the land ordered sold has been actually used for burial purposes. This appellant is a private corporation, and its property may be sold like that of any other private owner, unless exempt by its charter."

After this decision was handed down, the Illinois legislature adopted the following statute, but it does not seem to change the rule above announced, in view of the decision that an exemption from "taxation" in favor of a cemetery association does not exempt from special assessment for a local improvement:

"The property, both real and personal, of any association organized under this act shall be forever exempt from taxation for any and all purposes."

My attention has not been drawn to any subsequent decision of the Illinois Supreme Court holding that this exemption extends to special assessments, and since the legislature is presumed to know of the previous decision holding that "taxation" does not include special assessments, it is almost certain that the court would still hold that the exemption is not so far enlarged as to include special assessments.

A footnote on pages 36 and 37, Volume XXXV., *Lawyers' Reports Annotated*, sums up the policy of the law on this question in the following language:

"In determining whether land used or intended to be used for burial purposes is or is not exempt from assessment for local improvements, several important questions present themselves which must be disposed of separately. There is no fundamental reason why such lands may not be held liable to contribute to local improvements. It is held that where portions of land are alleged to be set aside for use as burial ground at some remote future the same is liable to local assessment, because it is not impossible to sell the same to enforce such assessment; and further, that such land is not within the meaning of a clause exempting lands 'actually used for burial purposes.' Graveyards are in the same category with churches, and the same rea-

soning will apply to them. If they are not expressly exempted, and no barrier of public policy has been interposed, and no inability to satisfy the assessment exists, such lands are liable to local assessment for a public improvement which will benefit the property itself."

A. L. H. STREET, Attorney.

Fixtures for Public Fountains.

Editor Asked and Answered: Can you give me the address of one or two firms who supply fountain fixtures? I have just received a contract for a very nice fountain. Under separate cover I am sending you one of the local papers which shows it. If there is a firm in Chicago which does this work I would especially like it.

CONCRETE MAUSOLEUM ORDERED DEMOLISHED.

Last January *MONUMENTAL NEWS* illustrated the accompanying photograph of a mausoleum with the following comment:

"No, dealers, the ragged looking remnant of what once was a classic mausoleum shown in the left of the two accompanying illustrations, was not dug out of the ruins of Pompeii, nor is it a picture of a Belgian tomb wrecked by German shells; not at all;

as I expect to be called there on business next week.—B. F., Ind.

Sculptors and dealers who have erected public drinking fountains advise that it is best to have the local plumber furnish the fittings and fixtures. He can show you the catalogs of the large plumbing supply houses and get you any kind of fixtures you might want. When you are in Chicago you might call on a few of the leading plumbing supply houses and look at their catalogs and find out just what you want, so that you can tell the local plumber when you get ready to figure with him. One of the leading houses in this line in Chicago is Jas. B. Clow & Son, 544 S. Franklin street, who make a large variety of drinking fountains and can furnish any form of fittings required for these structures.

crete mausoleum, either community or private. The photograph of this specimen speaks for itself. It will be noted that most of the cornice on the side visible lies on the ground, a rather unusual place to find a cornice, but it must be remembered this enduring structure has been standing some eight years. This cornice fell to the ground about two years ago and cement lovers have very kindly left the fragments there for this interesting exhibit of concrete as a mausoleum material. We are informed



CONCRETE MAUSOLEUM, ROME, N. Y.; ORDERED DEMOLISHED AFTER STANDING EIGHT YEARS.

it is merely a mausoleum of "indestructible and enduring concrete," which the cement advertisements and the community mausoleum promoters tell us is as everlasting as the pyramids of Egypt. This particular specimen stands on the McCarthy family lot in Rome Cemetery, Rome, N. Y., and has been lasting more or less since 1907, when it was erected in an unguarded moment by one of the McCarthy family, who is an architect with a penchant for concrete construction. He was so impressed with the cement show literature that he must have everything possible of concrete, so he resolved to go the limit. And the limit, as everyone knows, is a con-

crete mausoleum, either community or private. The photograph of this specimen speaks for itself. It will be noted that most of the cornice on the side visible lies on the ground, a rather unusual place to find a cornice, but it must be remembered this enduring structure has been standing some eight years. This cornice fell to the ground about two years ago and cement lovers have very kindly left the fragments there for this interesting exhibit of concrete as a mausoleum material. We are informed

that the interior is also an interesting exhibit when water stands on the floor an inch or two deep at certain times in the year."

The sequel to the above interesting story is to be found in the following extract from the report of the annual meeting of the Rome Cemetery Association, in a local newspaper dated August 2:

"The secretary reported that a thirty days' notice had been served on the inter-

ested parties concerning the concrete mausoleum on the J. S. McCarthy lot, to either repair or tear down the structure, which is falling to pieces. Nothing has been done by the relatives, so the executive commit-

tee was directed to tear it down and bury the bodies in the lot."

J. Gordon Smith is secretary of the Rome Cemetery Association and Frank H. Smith, superintendent.

LIMITING COST OF MONUMENTS.

In the settlement of a deceased person's estate, how much money may be spent for a monument?

This interesting and practical question is suggested by a case pending in Minnesota wherein heirs of a decedent sought to break a will which called for erection of a monument over her grave at a cost of \$17,000, an amount which will consume the greater part of the estate. The heirs, apparently believing that they could spend part of the \$17,000 to a better advantage to themselves than putting it in a shaft dedicated to the memory of deceased, contested the will as providing an unreasonable amount for a monument, but both the probate judge and the district court upheld the right of decedent to spend her own money as she saw fit, it being inferentially found that she was of sound mind when she made her will.

Common sense suggests these two general rules of law, and the court decisions seem to support them:

1. A person of sound mind may dispose of his own money as he sees fit. Therefore, if he chooses to put every cent of his net assets into a monument, after providing for the payment of the debt he leaves, he has a right to do so. It is not to be doubted, however, that a provision in a will for a monument might be so unnatural or fanatical as to be some evidence of the testator's mental unsoundness.

2. When a will is silent as to how much shall be spent for a monument, or when there is no will or no provision at all concerning a tombstone, the estate will not be held liable for more than a reasonable amount, considering decedent's station in life and the amount of his estate. As stated at page 439, volume 18, Cyc.:

"The expense of erecting a monument at the grave of the decedent is usually allowed against the estate, especially where the estate is ample, such expenditure being considered in some jurisdictions a part of the 'funeral expenses.' But the expenditure in this connection which will be allowed against the estate must be reasonable, taking into consideration the amount of the estate and also its condition as to solvency or insolvency, and as the erection of a monument is not a matter of such urgent and immediate necessity as the funeral and interment of the decedent, this expense should be incurred only by or at least with the consent of the personal representative, and where a person having no authority in the premises from the repre-

sentative has ordered and procured the erection of a tombstone or monument, the courts have refused to hold the estate liable either to the person who actually furnished the tombstone or monument or to the person who ordered and procured the same in case he has paid therefor."

The Pennsylvania Supreme Court has said:

"In any event, the act of burial includes all the usual incidents of decent burial, of which one, at least, is the erection of a suitable tombstone."

And the Indiana Supreme Court declares:

"It certainly cannot be asserted that the mere fact that a tombstone or monument to mark the last resting place of the deceased was erected at the grave after the burial will result in making it any less an item incident to such burial. Of course, where the estate of the deceased is insolvent, a stricter rule prevails in the allowance of funeral expenses than is enforced where the estate is solvent. The rights of creditors of insolvent estates are of more regard than those of the next of kin of the deceased, and the rule in such cases is to allow no more to defray funeral expenses

than is necessary and reasonable under all of the circumstances. In the determination of that question, however, the rank or condition in life of the deceased is a factor to be taken into consideration by the court. The rule that, in the eye of the law, one must be just before he is generous applies with equal force to his estate after his demise, or, in other words, as asserted by some of the authorities, 'Dead debtors must not feast to make their living creditors fast.' In the absence of any statutory restriction to the contrary, the amount to be allowed against the estate of a decedent for the cost of a tombstone or monument or other funeral expenses is, as a general rule, a matter to be left under all the circumstances of the particular case, to the sound discretion of the probate court, the abuse of which discretion will be subject to review on appeal to a higher court."

Where the will of a decedent, whose entire estate amounted to \$2,410, authorized his executor to purchase and erect in the testator's burial plot a monument of New England granite of sufficient size to cut thereon a dozen names mentioned in the will, with dates of birth and death, and also to erect a suitable fence around the plot with granite posts, an expenditure of \$1,050 by the executor for this purpose was held by the Appellate Division of the New York Supreme Court to have been excessive.

And a Pennsylvania court has refused to sanction an allowance of \$400 for a monument to the memory of a man who left only \$1,000 and a widow with ten children.

PARK NEWS.

A memorial drinking fountain was erected in Forest Park, Springfield, Mass., recently in honor of Dr. Chester Twitchell Stockwell. The fountain was the gift of dentists and other friends of Dr. Stockwell and was designed by Herbert N. Headle, an employee of the Park Department.

The Parks Department of the city of Calgary, Can., has submitted its annual report for 1914. Ninety-nine thousand four hundred and ninety-two dollars was appropriated for improvements and maintenance and \$80,555.75 of this was spent during the year; \$61,679.24 represents actual park and boulevard development and maintenance, the remainder covering extraneous purposes. Under Local Improvement By-Law 1610, 39,075 feet (7½ miles) of new boulevard have been constructed at a cost, including overhead charges, of \$17,768.58, or approximately 45 cents per foot frontage (\$225 per block). There are now forty miles of boulevard in the city. The summary of the planting on all parks and

boulevards, exclusive of nursery planting, is as follows: 6,181 trees, 5,476 herbaceous perennials, 5,083 shrubs and 34,834 bulbs. The Parks Department also maintains the cemetery in this city and much improvement work was accomplished during the year. The grading of roads was continued, and where these contained loam, this was removed for use on the grave plots and replaced with the surplus soil from the graves. The surfacing of roads with cinders was continued, about 1,000 loads being hauled. Two thousand and thirty-seven trees were planted and 3,314 flowering plants and bulbs used for the embellishment of the borders. The work of installing a system of road drainage was started.

The fifty-fifth annual report of the Board of Park Commissioners of Hartford, Conn., together with the seventh annual report of the public cemeteries which come under its jurisdiction, has been submitted. The superintendent's report to this board gives an accurate account of the

work and improvements that have taken place in the various parks during the past year. Several instructive and interesting walks were taken through the parks under the leadership of a competent guide and the Saturdays of early fall were utilized for this purpose. The City Council appropriated \$9,000 for the Park Department for the relief of the unemployed and 265 men received work at full pay per hour

for the time they worked. The park work has become largely recreational and facilities for the usual sports were provided, which a large number of people took advantage of.

Mrs. J. Frank Eddy, of Bay City, Mich., has offered to erect in Wenonah Park, that city, a public rest pavilion as a monument to her husband.

CEMETERY NOTES

As an additional safeguard of the financial future of Oak Ridge Cemetery, Springfield, Ill., the Board of Managers has now agreed upon an increase of from 10 to 25 cents per square foot in the price of lots in the burial ground. It was also voted to create a sinking fund to be drawn upon where all lots have been disposed of, and a committee was appointed to formulate rules and regulations for the management of the new sinking fund. The committee is composed of President Lange, Fred Van Horn and H. K. Weber.

Residents of East Lansing, Mich., are fighting the proposed establishment of a cemetery on the Ehinger property in East Lansing, and the matter already has been placed before the city attorney.

A perpetual care fund of \$63,994 will be set aside for purchasers of crypts in Roschill Cemetery, Chicago, according to the reorganization plans. Superior Judge Foell has granted the petition of the receivers to start the fund with \$35,000 now on hand.

Waterford Rural Cemetery, Waterford, N. Y., recently installed a Macey "Helfite" safe for the purpose of protecting the records of that cemetery.

At the annual meeting of the trustees of the Mount Hope Cemetery permanent fund, Champaign, Ill., the report of the treasurer showed over \$14,000 in the fund. There was an increase in the endowment this year of nearly \$2,000. The new road leading from the proposed University macadamized road through the west part of the cemetery to the east part was discussed, together with many other improvements.

Cemetery Officers Elected.

The Wapella Long Point Cemetery, of Wapella, Ill., has re-elected F. M. Roberts, president; Abraham Summers, secretary, and A. D. Metz, treasurer.

W. F. Ricks and C. O. Heggem were re-elected directors of the Massillon Cemetery Association, of Massillon, Ohio.

The Union Cemetery Association, of La Moille, Ill., recently elected M. Rapp as president for one year and as director for five years, and C. H. Hatch secretary and treasurer.

The Elm Grove Cemetery Association, of Bluffton, Ind., recently elected officers as follows: President, A. B. Cline; vice-

president, J. A. Morris; secretary, W. S. Smith, and treasurer, W. L. Kiger.

At a meeting of the Cumberland Cemetery Association, of Cumberland, Ill., A. P. McHenry was elected secretary-treasurer and W. P. Martin president.

Five trustees of the historic cemetery at Paperville, Tenn., were elected as follows: J. W. Campbell, George Jones. M. B. Bushong, Robert Carmack and J. W. Broce, with Mr. Bushong as secretary and treasurer. People interested in this graveyard recently cleaned up the grounds.

New Cemeteries and Improvements.

Willisburg Cemetery Co. has been incorporated at Willisburg, Ky., by F. H. Ash, John R. Rose and B. C. Rinkston.

The Lawnside Cemetery Co. was incorporated recently at Woodstown, N. Y., with a capital of \$100,000.

The new cemetery at Oak Harbor, Ohio, is now open for the sale of lots.

The Ideal Cemetery Association has been incorporated at Ideal, Tripp County, S. D. The trustees are S. F. Schwitters, L. J. Aubel and R. J. Hamson, Jr.

Mound Grove Cemetery Association, of Kankakee, Ill., has just completed the erection of nearly 2,000 feet of iron picket fence. The fence stands 5 feet in height with a line post every 7 feet set in concrete 2½ feet deep.

A new five-foot walk into the Plainfield Cemetery, Plainfield, Ill., from the east street line, was completed recently. A walk along the east street line on the Lincoln Way was also laid.

The preliminary work on the building of the new cemetery wall at St. Mary's Cemetery, of McHenry, Ill., has been started.

Four and a half acres of ground have been added to Green Park Cemetery, Portland, Ind., which is now being plotted by Lewis Cole, landscape architect, of Chicago. Material changes in arrangement of driveways and entrances and in the beautification of the cemetery are also under way.

A new fence was recently erected around the old cemetery at Loraine, Ill., and the grounds generally improved under the supervision of J. R. O'Daniels.

Many improvements have been made in the City Cemetery, of Mishawaka, Ind. A sidewalk and curb has been built at the

east of the property from the Grand Trunk tracks to the Jefferson road. A park between the sidewalk and street curb is being constructed and a new fence on the north side of the cemetery is also being erected. The posts are of field stone, with an open effect at the top to be used for a flower receptacle.

The new cemetery addition at the summit of East Main street hill, Painesville, Ohio, is nearly completed.

The cemetery road is being graded at Havana, Ill., by the city.

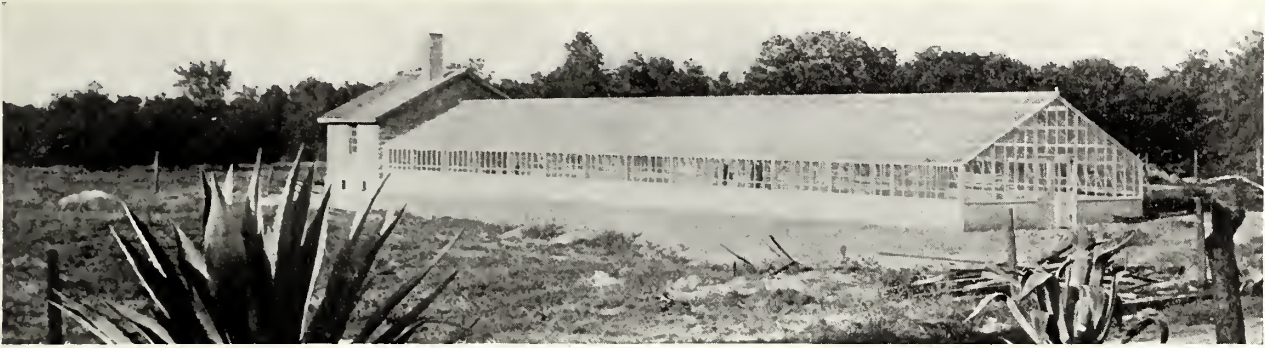
A portion of the new cemetery at Murrayville, Ill., was surveyed in lots recently and the ground is now ready for use.

NEW "PHILADELPHIA" LAWN MOWERS.

The forty-eighth annual catalog of the Philadelphia Lawn Mower Co., just issued, illustrates the "Independence" and "Overbrook" types of mowers, which last year's catalog did not contain and which are equipped with "Philadelphia" roller bearings. The book gives a very interesting description of the Philadelphia roller bearing as compared with the old ball bearing. By their method of construction—i. e., reaming both sides at one and the same time after frame is assembled and set—the straight alignment of the cylinder is assured. Their well-known regular line, including the "Graham," all steel, and "A," all steel, is also described and illustrated in detail in the new catalog.

THE COVER ILLUSTRATION.

The illustration on the front cover of this issue shows to an unusual degree what a successful architectural effect can be secured in an entrance gate with brick posts. There is practically an unlimited variety in the styles of brick post gateways that can be made to harmonize with the ironwork of the gate and fence and with the surrounding landscape. This is especially true where there are brick buildings near the entrance, as is the case in many cemeteries. A unified and harmonious style of buildings, entrance posts and fence may easily be secured in an effect like the one illustrated. This particular design has been given something of variety and interest by the well-chosen stone trimmings that have been used to good ornamental purpose. The interlaced tracery that forms the ornamental parts of this gate is particularly decorative and graceful in line and seems to harmonize admirably with the general lines of the design. There is a richness and a decorative character to this design that make it distinctive and beautiful without being elaborate or gaudy. It will be noted at the sides that the same general effect has been very carefully carried out in the design of the fence. This gate was built by the Stewart Iron Works Co., of Cincinnati, O., who have many styles of attractive fence and gate designs similar to the one illustrated.



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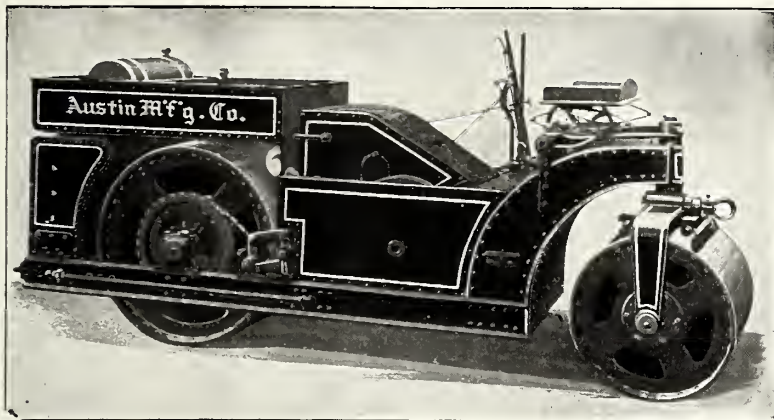
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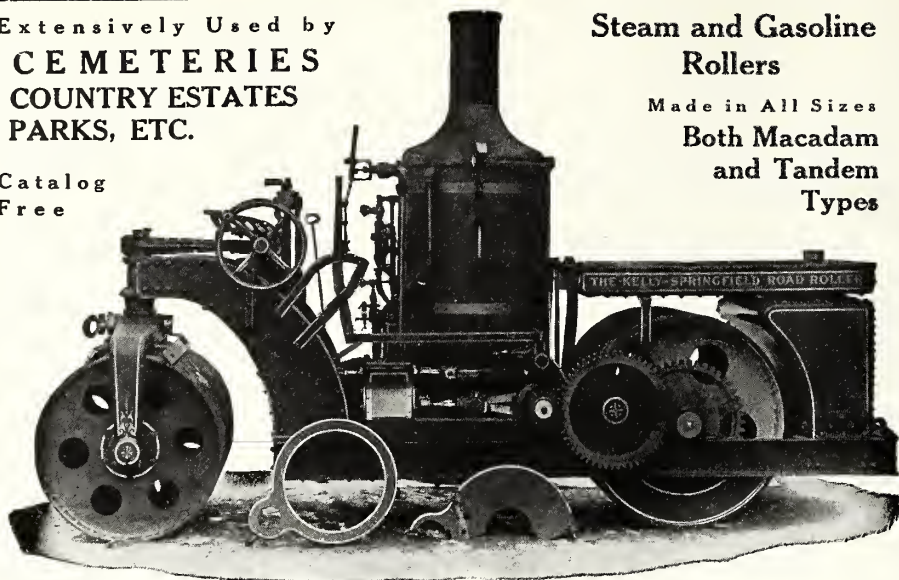
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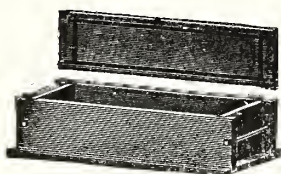
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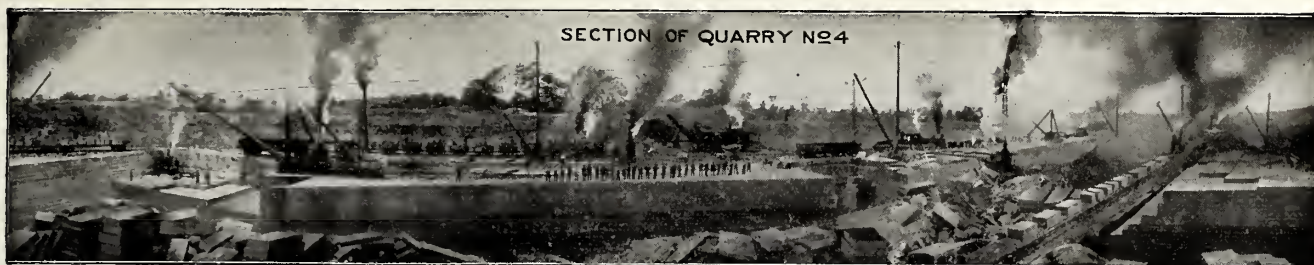
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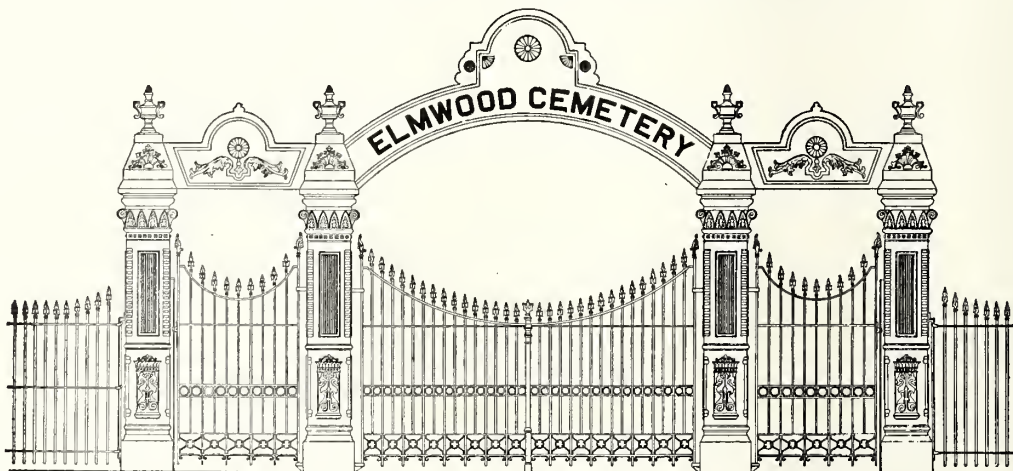
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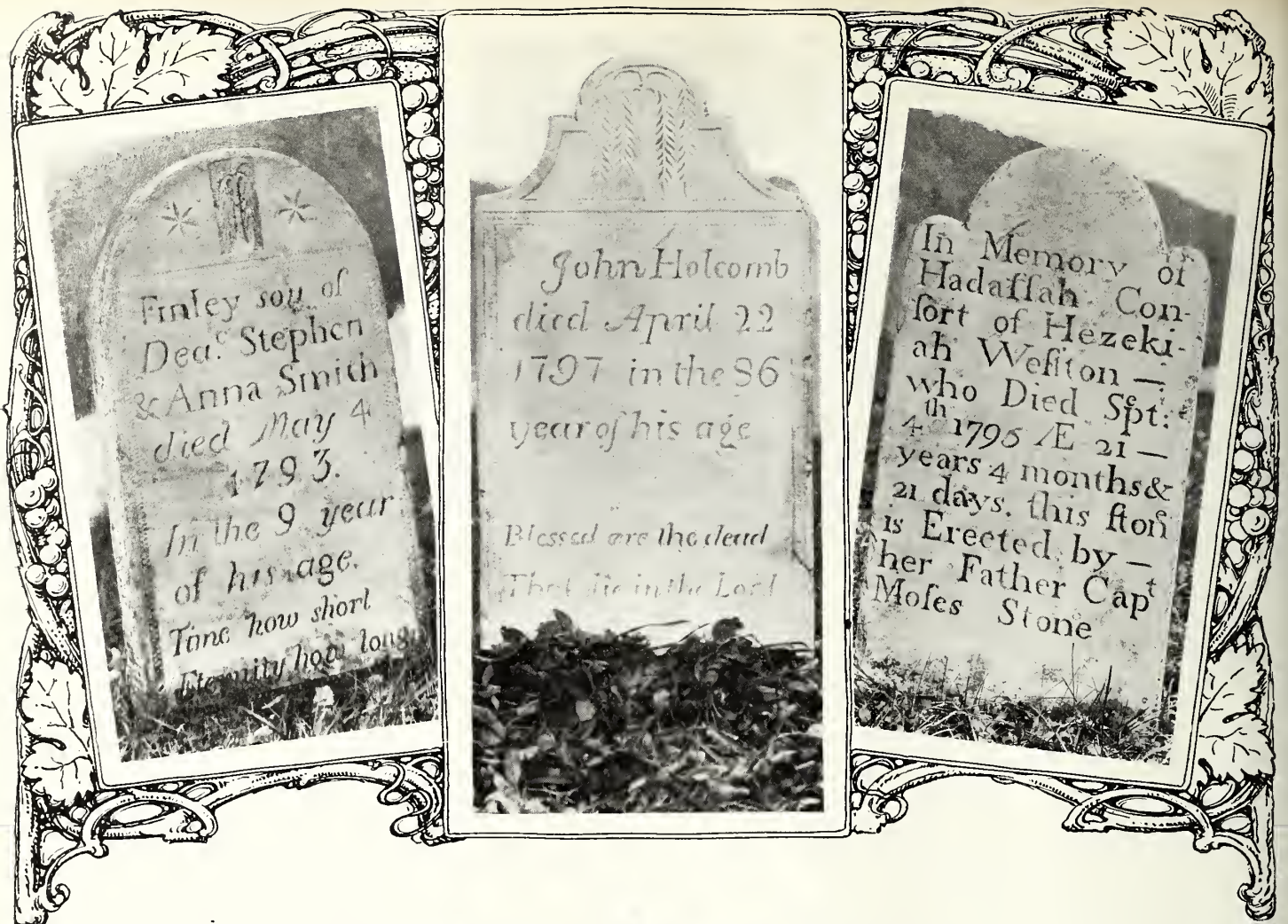
Vol. XXV., No. 10 DECEMBER, 1915

SPECIAL FEATURES IN THIS ISSUE

The Greater Uses of Parks and Playgrounds—New Books on Landscape Work—Unique
Boulder Shelter House—Motor Transportation for the Cemetery—Meeting of Park Institute
of New England—Condemnation of Park Land—Right of Cemetery to Exclude Negroes.



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See Page 314.



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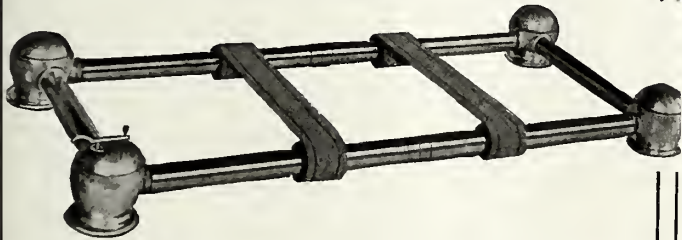
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Yours truly,
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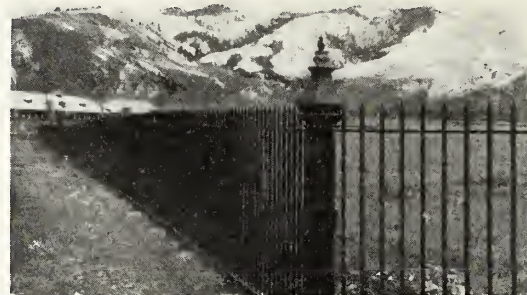
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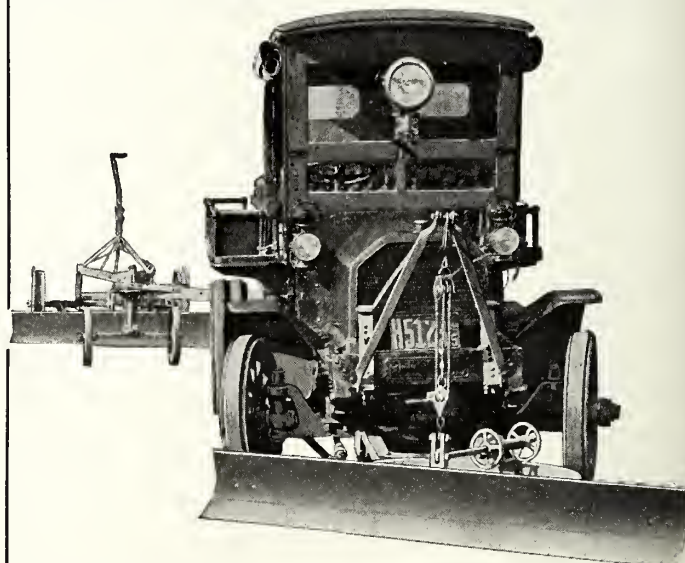
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DECEMBER, 1915

EDITORIAL

VOL. XXV No. 10

Motor Transportation in Parks and Cemeteries

On another page in this issue are presented some facts and statistics about motor bus transportation in cemeteries. The conclusion of cemetery men who contributed to this data seems to be that where city transportation does not furnish easy access to the cemetery, the cemetery must furnish it. In most large cities conditions of competition will practically force the cemetery to do this. Where the cemetery is large, it is also necessary that some conveyance be furnished lot owners, either free or for a small fee. Statistics seem to agree that such a service cannot be made to pay for itself, but must be regarded as a necessary expense. Other interesting points are brought out on another page.

The subject of motor buses in parks is also a vital one, although it must be considered from quite a different point of view. One of the St. Louis newspapers discusses the park side of the question in an interesting manner and we quote as follows from this source: "St. Louis has been experimenting during recent weeks with motor buses in its parks. An auto-bus has plied each Saturday and Sunday afternoon between one of the park entrances and the museum. From their present data, the park commissioners believe that the city can make a profit at a 3-cent fare. But there was something more interesting than this in the situation. A reporter for a St. Louis paper questioned the twenty-eight top-deck passengers during the first trip and learned that nineteen of them had never been to the museum. Chicago has spent large sums of money in developing places of recreation and amusement for its citizens and it has an enviable system of parks. But it has been a matter of complaint that their use is

not made easy and convenient. The machinery for touring Chicago, as we tour European cities, is lacking. One of the troubles is doubtless transportation. There have been various attempts during two years to install lines of motor buses on the boulevards. At one time five applications were pending before the public utilities commission. In each case park boards have prevented all experimentation. Chicago is frankly suspicious of motor buses. Although they would open up the recreative resources of the city, we have been afraid. With home rule a shadowy dream, we are not sure we could control such a public utility. And with recollection of past experiences with corporations of this kind, we are afraid someone is going to get something without paying enough for it. Perhaps in this case caution is not a virtue. It is entirely possible that motor bus lines, even should someone make a little profit out of them, would be worth having. We might try them, at any rate."

With the establishment of new cemeteries farther and farther from the city limits, the question of transportation will become even more pressing, and will be one of the deciding factors in the location of the cemeteries of the future. The motor vehicles at present in use in cemeteries have proven very satisfactory in service, and the statistics regarding the types of vehicles used and the cost of operating them as given on another page will be of especial interest to new cemeteries or old ones that are figuring on the necessity of furnishing transportation either to the entrance or through the grounds.

The Need for Service Parks

"The wrongs against society are committed by our people not in their hours of work but in their hours of leisure," writes Governor Martin G. Brumbaugh, of Pennsylvania, to President J. Horace McFarland, of the American Civic Association at Washington, in commendation of its movement for the extension and larger use of parks in American cities. That the economic value of parks and recreational areas is being recognized today to a greater extent than ever before is amply demonstrated by the reports that come to the association of municipal procedure for the acquirement of increased park lands, and at the same time changed methods of administration. The new attitude toward parks is that they shall be service parks—not merely ornamental adornments for the exclusive use of the few who ride, but for the millions who walk. The importance of the accessibility of parks to the masses of the population is illustrated by the growing habit, in the creation of park systems, of acquiring many small parks, harmoniously distributed and connected, rather than the maintenance of one or more great parks on the outskirts. The large park will continue to be popular, but it will be supplemented by groups of small parks given over to recreation purposes. "Verboten" in respect to the use of the grass is a discarded injunction; now it is "Welcome" everywhere.

From all parts of the United States go out reports of municipal bond issues for new and extended parks. The great cities of New York, Philadelphia, Boston and Chicago are not content with their expenditures of millions upon millions in years gone by for parks. They are spending more and more. And the ex-

ample is being followed by scores and hundreds of smaller cities. The story of how Kansas City surmounted topographical eccentricities to create a park system is well known. Harrisburg, Pa., has acquired in the past eleven years 958 acres of park land, one acre for every seventy-six of its population. Lincoln, Neb., has just passed a bond issue of \$50,000 to buy park lands, and a public-spirited citizen has donated to the city a beautiful tract of land worth thousands of dollars for the same purpose. Chattanooga, Seattle, Spokane, El Paso, San Antonio, Dallas, Minneapolis, Milwaukee, Detroit, Rochester, Columbus, Ohio, and Columbus, Ga., Jacksonville, Charlotte, N. C., Springfield, Ohio, and Springfield, Mass., Hartford, Conn., St. Louis, and so on, in an almost endless chain, are all working out the park problems in a notable manner.

Governor Brumbaugh sounds well the new attitude in his letter, as follows:

"I believe that one of the great social and economic problems of our American life is the conservation of our people in their hours of leisure. We have reduced the hours of work, and we did well. We have made no provision for the increased hours of leisure thus provided. We have not made it easy for our people to find wholesome, happy, healthful recreation, and it is my judgment that in the very near future we must turn our attention to this matter in a serious, constructive way for the good of the citizenship of this great republic. I am a firm believer in the necessity and value of recreation centers and of playgrounds for our people, and these should be made as ample and as convenient to the residences of our people as possible."

MOTOR TRANSPORTATION FOR THE CEMETERY



MOTOR BUS OF MT. HOPE CEMETERY, CHICAGO.



SMALL BUS OF FOREST HOME CEMETERY, CHICAGO.

The problem of transportation to and through the cemetery is one of the most important that faces the modern cemetery. Cemeteries must naturally be located at some distance from the greater portion of the population they serve, and in the establishing of new cemeteries it is almost the universal rule to locate beyond the city or town limits.

It is nevertheless essential to the success of a cemetery that speedy and convenient means of reaching the grounds be furnished, and in the case of cemeteries of considerable size, that some conveyance be provided to reach the remote parts of the grounds.

A cemetery is fortunate if street cars or steam railroads will bring patrons to its gates, and in many cases where they do not the cemetery has been obliged to furnish transportation from the nearest point to

which the regular mode of travel will bring its patrons.

This has in many cases led to the use of the motor bus, and probably the majority of large metropolitan cemeteries operate a motor bus either to the entrance or through the grounds.

Undoubtedly many others are facing the transportation problem in one form or another, and in order to gather some first-hand information on the subject, *PARK AND CEMETERY* has gathered some data concerning the operation of motor buses from a large number of cemeteries and presents here a few facts concerning the conditions under which many cemeteries are operating some form of motor vehicle.

Nearly every cemetery of any size makes use of a motor car, either an ordinary touring car for the use of the

superintendent, or a regular motor bus of large capacity.

The consensus of opinion from the data gathered for this investigation seems to be that nearly every large cemetery must furnish some kind of transportation to get its lot owners to distant sections of the grounds, or to the entrance. Opinions vary as to whether a charge should be made for this service, and opinion is practically unanimous that such a service cannot be operated at a financial profit, but must be borne as a part of the necessary operating expenses.

Cemeteries where competition is keen find it especially necessary to operate transportation passenger buses. Auto service proves the quickest and best means for this service, and a nominal fee is usually charged, in this way cov-



AUTO CONVEYANCE OF MT. AUBURN CEMETERY, BERWYN, ILL.

ering a portion of the operating expense. A cemetery employee is usually capable of handling the bus and doing other work when not running the car.

One superintendent says of their service: "It enhances the value of property that is not within walking distance of the entrance."

Another writes: "I believe all large cemeteries should operate a conveyance for their patrons free of charge, especially for those far away from the entrance where they would have to walk a distance of one-half mile to a mile to get to their lots."

Another superintendent puts the matter this way: "All large cemeteries should have one to accommodate their patrons. While ours is not self-sustaining and is operated at a loss of about \$30 a month, we consider it a good investment."

Mount Hope Cemetery, Rochester, N. Y., who gave the matter a thorough trial as a financial investment, discovered that it could not be made to pay, and their experience, as given by Superintendent John W. Keller, is of much interest. Mr. Keller writes:

ettes as above stated, starting at 10 o'clock in the morning, leaving the entrances to the cemetery on the even hours thereafter up to 6 o'clock in the evening. Automobiles being barred from the cemetery, only persons having the use of carriages were able to drive to all parts of the grounds; for these reasons we thought the bus service ought to be liberally patronized.

used and was inaugurated because it enhances the value of property that is not within walking distance from the entrance. We carried about 16,600 passengers last year. We charge 5 cents fare for round trip and operate two vehicles, one a Buick chassis with enclosed bus body, carrying eleven passengers, and one a General Motors car with enclosed bus body, seating sixteen persons. Both are



LARGE BUS OF FOREST HOME CEMETERY, CHICAGO.



ROSE HILL BUS, WITH SUMMER BODY.

"For years Mt. Hope Cemetery has been one of the show places of Rochester, its great natural beauties making it one of the most attractive places of the sort in the country. June 1, 1909, acting upon the advice of many lot owners, I made arrangements with a local livery to run a line of wagonettes in the cemetery, they to try out the venture at their expense. It had been pointed out that the limits of the cemetery have been ever expanding until some sort of a vehicle was necessary to reach those sections farthest from the street car lines.

"Thinking it would prove a great convenience to the many lot owners as well as the many visitors who wish to visit remote parts of the cemetery, the livery company put in operation the wagon-

"After six weeks the livery company had to abandon the service, and I know that in that time their receipts, which, by the way, were 10 cents per person, round trip, were not enough to pay for one team and driver, and they started with three. The daily number of visitors are between 500 and 800, with from 3,000 to 5,000 on Sundays, yet the venture would not pay. Personally I cannot see where it would pay any cemetery to maintain such conveyance unless there is very keen competition."

Following are some extracts from correspondence with cemeteries that have furnished us with data on this subject:

"We operate a bus service through our grounds only, covering 1½ miles on the round trip. The service is much

fully enclosed, including the driver, with front side entrance and rear entrance. They are built of especial width for allowing passengers to get in and out and pass other passengers. The small bus has pneumatic tires, the larger one solid tires. The small bus cost \$2,000 and the larger one \$2,800. We had an electric bus first, but that was very expensive in comparison with gasoline vehicles which we now have. The buses do not pay for themselves directly, but are a great help in selling lots at a distance from the entrance and getting better prices for same. We have our own drivers, who do other work when not driving. The smaller bus is used mostly, the other one being used only when busy, such as on Sundays or holidays. We run on a twenty-minute schedule when running one bus and a ten-minute schedule when running both."

FRED EWALD,

Supt., Forest Home Cemetery.

Forest Park, Ill.

"We operate a motor bus service through the grounds and outside the grounds to connect with local transportation. The length of haul within the grounds is one and two-tenths miles and outside of grounds one-half mile. The service is used constantly, being run on regular half-hour schedule, with extra help when found necessary. It was inaugurated to give better transportation and in an effort to increase our business. We charge a fare of 5 cents each way. Two vehicles are used, but only one is run constantly. One is a Buick, 14 pas-

senger, and the other a Federal 18-passenger bus. Both cars are built with side seats, canopy top and side curtains for bad weather. The average expense of maintaining a bus is about \$5.50 per day, not including depreciation. Conditions are so different in the various cemeteries that it is a hard thing to say how they should be operated. We run on a regular schedule over a fixed route, with signs at various intervals lettered 'Auto-bus stop, No. 1, No. 2,' etc. This has proven very satisfactory to us."

BELLETT LAWSON, JR.,

Supt., Elmwood Cemetery.

Chicago, Ill.

"We operate a motor bus service outside the grounds only to connect with local transportation. The length of the run is one mile. We have no direct connection with street car or trains within one mile and therefore our auto service is very necessary and the only way for quick transportation. We carry from 20 to 200 passengers one way daily and Sunday. We charge a fare of 5 cents round trip, using one bus, a Kenyon motor truck 'Commerce' with Continental engine and carrying capacity of 10 passengers. The vehicle cost \$1,400 and the cost of operation, with chauffeur and gasoline, oil, etc., is \$2.75 per day. We do not operate the bus in the cemetery, but if we were getting street car transportation direct we would not discontinue the running of an auto bus in the grounds. We are contemplating the purchase of a larger one in the near future."

GEORGE SCHRADER,

Supt., Mt. Auburn Cemetery.

Berwyn, Ill.

"We operate a horse-drawn carriage through the grounds on a run of one mile. The service is only fairly patronized. It was inaugurated to serve lot holders, but more visitors ride than lot holders. They do not pay expenses. Last year we carried 16,073 passengers, charging 10 cents for the round trip. On weekdays we use one carriage in the morning and two in the afternoon. On Sundays, two in the morning and three in the afternoon. The carriage has three seats and can carry eight passengers and driver. Each carriage cost \$365. In 1914 the receipts were \$803.65 and expenditures \$1,331.60. Our wagonettes run only from April 1 to December 1, 244 days. We believe that a cemetery should have such service."

ROBERT CAMPBELL,

Supt., Cave Hill Cemetery.

Louisville, Ky.

"We operate a motor bus service outside the grounds to connect with local transportation, a run of about a half mile. The service is much used and was inaugurated to offset as near as possible

the disadvantage (to those who see it that way) of not being directly on a car line. We carry about 60,000 passengers a year. We do not charge fare. We use one vehicle every day and two on Sundays, Saturdays and holidays and whenever needed. The cars are Federals and carry 20 passengers each. The vehicle cost \$2,600 and the cost of operating in 1914 was \$2,020.81, not including depreciation."

T. H. LITTLE,

Secy.-Gen. Mgr., Mt. Hope Cem.

Chicago, Ill.

"We operate a motor car service through the grounds on a run of one-half mile. This service is used only for selling lots and conveying old people from and back to the entrance. We try to look after those we feel are not in condition for such a long walk. The vehicle used is a five-passenger Ford touring car. I believe all large cemeteries should operate a conveyance for the benefit of its patrons free of charge, especially for those far away from entrance, where they would have to walk a distance of one-half to a mile to get to their lots."

THEO. E. ANDERSON,

Supt., Riverview Cemetery.

Portland, Ore.

"We operate a motor bus through the grounds, a run of a little over three-fourths mile. The service is used very liberally. About 20,000 passengers a year are carried. We charge a fare of 5 cents each way and use one vehicle, a White car, with a summer and a winter body, the winter one seating 12 people. The average expense of maintaining it is about \$100 per month. My opinion is that all large cemeteries should have one to accommodate their patrons, and while ours is not self-sustaining, as it is operated at a loss of about \$30 per month, we consider it a good investment."

THOMAS WALLIS,

Supt., Rose Hill Cemetery.

Chicago, Ill.

"We operate a horse-drawn carriage within the grounds on a run of two to four miles. The distance in the grounds

is what brought it about. Some days we have few passengers and some days many; but it does not pay. We charge a fare of 10 cents and use one vehicle through the week and two on Sundays and holidays. It is a small bus of local make and seats eight passengers. It is on the order of a park wagon, and I think the original cost was \$400. The average expense is about \$2.50 per day. It is very nice for large cemeteries to have such a conveyance, but there are very few that can afford it. I don't think it can be made to pay."

JOHN J. STEPHENS,

Supt., Crown Hill Cemetery.

Indianapolis, Ind.

"We do not operate a bus or any other conveyance for the use of the general public, as our cemetery is only a small one, not exceeding 58 acres and only about one-half in use. But I have my own personal Overland car, which I use when showing lots or directing people to plots which they are unable to locate. The cemetery association furnishes me with the gasoline and oil. For a cemetery the size of this one this system seems to work the best, for the auto is always at the disposal of the superintendent when he needs it, and there would not be the expense of the additional chauffeur or maintaining the second machine. I find the auto of great use in directing funerals, which I do myself. When the funerals arrive I meet them at the entrance and lead them to the proper place, and if there are others due about the same time I can return to the entrance and take them to the proper place and always avoid one funeral passing another while in the grounds. Nearly all of our funerals come by auto; only about one in every hundred are horse-drawn, and possibly two a year come by the electric car. The electric car line passes our entrance, hence there is no need for the cemetery to operate an outside conveyance."

GEORGE D. BROWN,

Supt., Mountain View Cemetery.

Pasadena, Cal.

MEETING OF AMERICAN ACADEMY OF ARBORISTS.

The first annual meeting of the American Academy of Arborists, formed about a year ago with the aim of advancing arboriculture and landscape forestry and maintaining the highest professional standard among its members, will be held in Newark on January 8 next, in appreciation of the work done by the Newark Shade Tree Commission for the progress of arboriculture.

The sessions will open at 10 a. m. with a business meeting. Addresses will be given as follows at the afternoon session, which will open at 2 o'clock: "The Ministry of Trees," Carl Bannwart, secretary,

Newark Shade Tree Commission; "The Tree Fakir," Hermann Merkel, chief forester, New York Zoological Park and president of Academy of Arborists; "Fungus Problems of Interest to Arborists," R. B. Maxwell, city forester, Baltimore, Md., and second vice-president of Academy of Arboriculture; "Arboriculture as a Profession," J. J. Levison, arboriculturist of Brooklyn Park Department and secretary of Academy of Arboriculture. New and important problems in arboriculture then will be discussed by the members. In the afternoon the session will be open to the public.

THE GREATER USE OF PARKS AND PLAYGROUNDS

*An address before the Park Institute of New England, by
James B. Shea, Deputy Commissioner of Parks, Boston, Mass.*

Some weeks ago the manager of the New England Park Institute requested me to read a paper or give a talk at the Lowell meeting on the "Greater Use of Parks and Playgrounds." This is a pretty big subject and one to which, I fear, I cannot give the justice it deserves. It is, however, not by any means a new question to me or to many of my fellow park superintendents, particularly to those who attended the annual conventions of the National society. Many years ago this subject was thrashed out at Harrisburg at a convention held in that city, a convention brought there with the avowed purpose of converting the City Council and the leading civic societies of the town to advocate a larger appropriation for parks and playgrounds and to introduce more modern and advanced methods in the management and control of the various activities.

I have a very sincere respect for the earnest work of the city officials of Harrisburg in securing this convention for their city. They came to Boston to inspect its park system and to see for themselves the various playground activities and the method of managing the same. Headed by the then Mayor of the city, Vance MacCormack, better known throughout the country perhaps as the great quarterback of the old Yale team, with seventy-five members of the city government and department officials, they arrived in Boston early in the morning, spent the entire day in the parks and playgrounds, and returned home on the night train. Some uncharitable persons might call this a junket, but they were the most earnest and hard-working junketers I have ever seen.

I have been assured time and again that the trouble and expense of this trip and the subsequent meeting of the Association of Park Superintendents at their city, where we were most hospitably received, was more than offset by the benefits which they received through the increased knowledge and experience of their public officials.

Later on we were treated to further dissertations on the subject of popularizing parks and playgrounds, two cities which I have in mind being Minneapolis, where the society convened in the year 1908, and Denver, in 1913. Both cities have made decided progress in the work and both have much to commend them to the seeker for information.

It is, of course, to the larger cities of the country that we must look for advance information on many of the matters which would be properly treated in this article. Therefore it would not be

amiss if I should present a few statistics from the great bulk of matter collected during the past few years. The City of Greater New York has a park system comprising an area of 8,600 acres, maintained at an annual cost of \$2,860,442, exclusive of the amount expended for construction purposes, which, while varying according to the needs, will amount to at least \$1,000,000 additional. This area reduced to units means one acre to each 642 persons, or 1.56 acres to each 1,000 persons.

The New York park system had its beginning in the year 1851; in 1853 a taking was made for what is now known as Central Park, embracing, as you all know, all that territory between 59th street and 106th street longitudinally and from Fifth avenue to Eighth avenue, an area of 776 acres.

These facts I call to your attention because two years later, before the takings were completed, the City Council passed a resolution cutting out of the park reservation all that portion of the above territory lying between 59th and 72nd streets, on the ground that taking so much land for park purposes would injure the future growth of the city and would be detrimental to its commercial interests.

Fortunately, the Mayor, Hon. Fernando Wood, vetoed this proposed legislation and the work of park building was not interrupted. A committee of citizens was called in by the Mayor as a consulting board, and among the number was Washington Irving, George Bancroft and Charles A. Dana.

It is a difficult task to give reliable statistics on the park and playground system of Chicago, as the activities of this great city are divided among a dozen or more separate executive bodies. The total annual expenditures of the community are, however, greatly in excess of \$3,000,000. In this city is to be found the latest word in playground development. In the management of its activities also it has shown the lead and we of other cities are obliged to sit up and take notice; in fact, when we consider the pace that has been set, particularly by the South Park Commission, one is obliged to hold his breath and say, "Whither are we tending?" but, all in all, I believe that Chicago parks and playgrounds are used by the public to a greater extent than those of any other city in the country.

Now just a few words on Boston's parks and playgrounds. Since 1877, the establishment of the Park Commission, there has been expended for land \$9,-

000,000 and for construction \$11,000,000, a total of \$20,000,000. Of this amount, \$3,000,000 was expended on the purchase and development of 42 playgrounds. The total park area contained in the above is about 2,500 acres. In addition to the above, there are upward of 80 small parks and squares acquired previous to 1877 and eight beach bath houses and fifteen bath and gymnasium buildings, open all the year.

Now, I have presented the foregoing facts to show that in three of the great cities of the country there exist park and playground systems that represent in each community an expenditure of from \$30,000,000 to \$60,000,000 for purchase and development, exclusive of the millions annually appropriated for care and maintenance, and to demonstrate that it is incumbent on those responsible for the management of these magnificent institutions to get the greatest amount of good for the greatest number of people. Now, how is it to be done?

It is not sufficient that we select suitable sites for our parks and develop them on the most artistic lines, or that we furnish a playground with a modern gymnasium and all facilities for sports, and then say to the public, "There are your parks and there are your playgrounds; go in and enjoy yourselves." Oh, no; we must devise some way of enticing the public into our carefully prepared beauty spots.

Some time ago I chanced upon an article by James Corbin in one of the magazines entitled "Wasted Opportunity." It was a plea by the writer to the public of New York for a greater appreciation of the benefits to be obtained from the Metropolitan Museum, and suggestions for practical ways and means for the cultivation of good taste in art. His valuable suggestions must not be considered solely in regard to the famous museum which he uses as an example; in fact, they intermingle so closely with the subject which we have in mind that I take the liberty of quoting him at some length:

We live in the day and in the land of waste.

The waste in wealth, in food, material waste, is as nothing to the waste of opportunity, starvation of the mind based on neglect of opportunity.

The sun sets and rises in the great cities; the moon shines and passes through its phases. More than half the population live and die without the inspiration of sunset or sunrise or the moon's beauty among the clouds. No wonder city minds are dull.

Parks are beautiful, and usually quite empty. They are there, but the people have not been taught to use them or enjoy them.

Of all the great opportunities that a republic is supposed to offer to the citizens, practically all are neglected except the greatest of all—the public school. There, the children go because the parents send them. And parents send them because the law compels them to send them.

THE ONE PRECIOUS THING

The one precious thing in the world is knowledge. And we are so near the savage that it is necessary to have laws to compel the people to accept knowledge offered free, as it was once necessary by law to forbid cannibalism, and even the eating of human bodies that had died of the plague.

This is the age of unlimited production and of imperfect distribution. Our power to manufacture, the world's supply of wealth, all that the body and the mind need are unlimited. But the intelligence of the world has been devoted to selfish accumulation, none to unselfish distribution.

Good pictures are wasted; the people do not see them. Parks are wasted; people do not go to them. Libraries are wasted; the books are not read.

Concerts would take the people to the museum of art and to scientific collections in the other museums. The concerts should be supplied.

Concerts and other attractions could, and should, be devised to take the people to the parks, more games for the children, swimming-pools of salt water pumped from the ocean, pure and very cheap milk, and bread for the mothers and their children, private rooms and warm water for changing the children's clothes, and a place to put them to sleep.

The father who can give his children "advantages" sees to it that the advantages are not neglected. The republic that can give its children opportunities should see that the opportunities are not wasted, and should not scorn to devise plans that would make opportunities tempting. The problem of parks and museums is comparatively simple.

Put in the parks and museums music and other attractions that the people want, and they will go. Gradually they will learn to love the green fields and trees, the pictures and the scientific exhibitions for themselves.

If you think it is a good idea to interest the people in good things, do your share. Do not merely approve the idea.

There are many ways of doing good to human beings, but the greatest thing you can do for a man is to teach him to use his own brain and to appreciate that which is beautiful.

Now, it is quite evident that Mr. Corbin's views as to the necessity of encouraging the public to use the parks are in accord with our well-known experiences, but the remedies which he suggests are likely to prove inadequate.

Franklin Park in Boston, admittedly one of the most beautiful natural parks in this country, improved under the direction of the foremost landscape architect that the past or present generation has produced, maintained a solitary existence until the zoo was started, a few years ago, and now on pleasant Sundays or holidays from 30,000 to 50,000 people can be found there, not all of whom give their undivided attention to the animals, but are attracted to the broad meadows, the grassy slopes, the quiet of the shady groves or the distant views from the hilltops.

A golf course has also added to the attractions of the country park. Now, one might go on indefinitely and enumerate a thousand and one things to attract the public. Each community has its own requirements; all kinds of sports should be provided, but the question finally resolves itself into one of publicity; we must so ingratiate ourselves with the public that they cannot resist the impulse to partake of the pleasures and enjoyments which we offer. One of the best mediums to obtain this desired publicity is through the influence of the school children; here we have a perfected organization in every town and city that is invaluable.

But let us not deceive ourselves into the belief that all these suggestions can be carried out by merely giving instructions to do so and so; the proper conduct of recreation activities entails a tremendous expense. Members of park boards and members of city governments

cannot expect to meet with any measure of success in the attempt to popularize the parks without such expenditure.

We of this twentieth century are quite likely to think that our playgrounds and recreation parks are the fruits of modern ideas and the results of recent civic development and research, but if we study the history of the best known of the ancient cities, Athens, we will find that Grecian civilization evolved the idea of a recreation park 500 years prior to the Christian era. Pericles is said to have instituted the Lyceum, a gymnasium surrounded with pleasant gardens and shady groves. The philosopher, Aristotle, here held forth, and the opponents of his school of philosophy, Socrates and his followers, made their headquarters at a similar institution, the Academy; here, also, Plato lived, taught and was buried.

A sport that is perhaps overlooked in many parks is that of bowling on the green. Its possibilities are worthy of consideration, not only because it is a keen, enjoyable sport which appeals like golf to the man who is past the age when he can take part in the more strenuous games, but it is what we might term an economical sport in so much as while the initial cost of the green is considerable, yet thirty or forty contestants may play in a space 150 feet square.

Everything then that calls the people to the parks can be made a part of the publicity propaganda and will tend to arouse a greater appreciation of the beauties of nature.

AN EXHIBIT OF CHESTNUT BARK DISEASE

Among the various fungous diseases which are destructive to trees, perhaps the one which attacks the chestnut bark has attracted more attention in recent years than any other. While there are few chestnut trees growing in Missouri, the number of inquiries which have come to the Missouri Botanical Garden concerning the blight indicate that there is considerable local interest in it, and an exhibit illustrating the effect of the fungus has been installed in the museum of the Botanical Garden at St. Louis.

This disease of the chestnut was first discovered in New York in the year 1906. All the evidence at hand points to its having been introduced from the Orient with nursery stock about twenty-five years ago. From the vicinity of New York City it spread eastward and southward with an alarming rapidity, until at the present time the region infected extends from Maine on the north to North

Carolina on the south. Not only has the spread of this disease been phenomenal, but it has literally swept everything before it, with the result that healthy chestnuts are now all but unknown in western Connecticut, southern New York, Delaware, New Jersey and eastern Pennsylvania, and in the centers of worst infection every chestnut has been killed. The pest bids fair at the present time to wipe out completely the chestnut throughout its range along the Appalachian Mountains unless some successful method of attack should be found within a few years.

The chestnut bark disease is due to the fungus *Endothia parasitica*, which attacks exclusively the chestnut and the chinquapin. This fungus can enter the bark only through wounds of various sorts, such as are caused by mechanical injury, insect punctures, woodpecker holes, etc. Once the fungus has started

in the bark or cambium, it progresses very steadily and rapidly, and although it remains practically dormant during the winter months, growth is vigorously resumed with the return of warm weather. The cankers are produced on both the branches and the main trunk, and are orange-colored or brown. In the course of time the branch or tree is girdled, resulting in the death of all parts above the canker. If the entire tree above ground is killed, numerous sprouts or "suckers" may be produced at its base, but these in turn fall a rapid prey to the attacks of the parasite.

Two kinds of reproductive bodies, or spores, are formed by the fungus. One of these makes itself evident after warm rains in the form of long, thread-like masses called spore horns, containing many millions of spores which ooze out from small openings in the diseased tissues. The second type of spore, the ascospore, is forcibly ejected into the air

from small orange or brown cushions at the surface of the canker. New infections may arise from a number of causes. Spores which are washed down the trunk of the tree may lodge in a wound and, if conditions are favorable, germinate and give rise to a new canker.

Spores are also transported from one tree to another by such agencies as the wind, birds, and insects. The shipment of diseased nursery stock, or of unpeeled, diseased logs, or of diseased bark to tanneries, is also responsible for the origin of new centers of infection, which

are frequently at considerable distances from the main area of the disease.

The display of chestnut blight material, obtained from Pennsylvania, shows some of the more characteristic aspects of the disease, particularly various stages in its development.

INTERESTING TYPE OF BOULDER SHELTER HOUSE

Swan Point Cemetery, Providence, has developed some very interesting and characteristic effects in boulder work, including a boulder wall and other fine pieces of rustic construction.

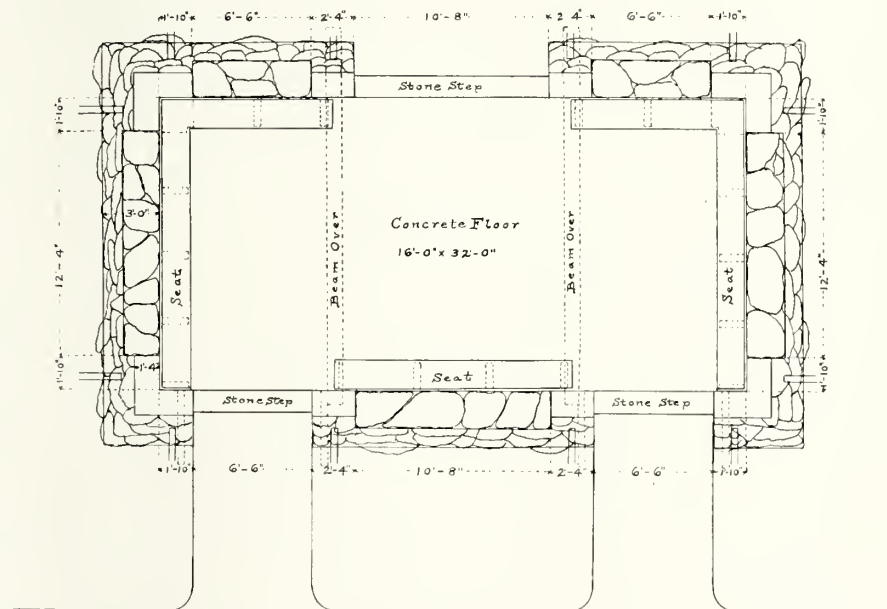
One of the most interesting of these is the boulder shelter house illustrated here. The walls are of old farm wall stones and the floor is of crushed stone with the stone dust surface one step above the grade. The timbers of the roof are of chestnut, planed and finished to show the grain. The planking of the roof is of yellow pine finished in the same way and covered with creosote treated shingles. The roof is anchored at the four corners by iron bolts extending from the foundation.

The trellis, just below, yet on all sides, is of natural cedar poles, all of which may be seen fairly well in the picture.

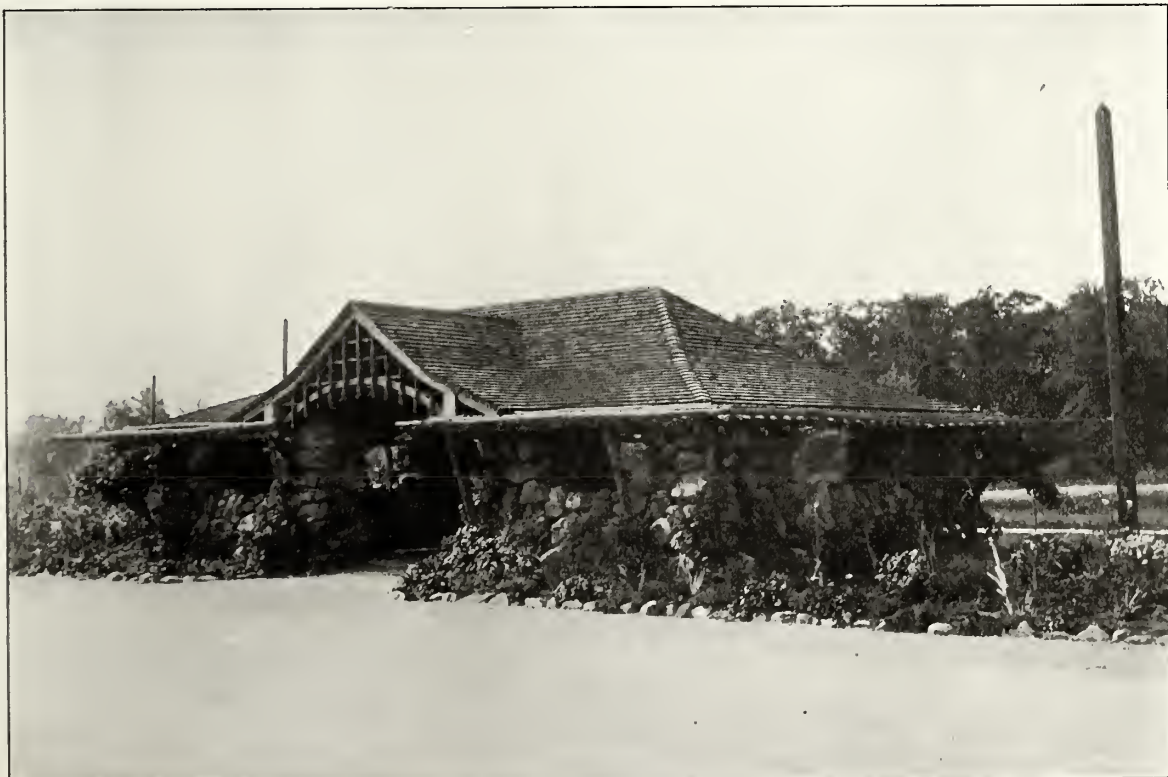
The seats are of stained spruce; in fact, all of the interior is stained or oiled to show the grain of the wood. There is also a drinking fountain in the center of the floor.

The foundation and walls of the building were built by cemetery employees

and the approximate cost of the whole work is about \$2,000.



GROUND PLAN, SWAN POINT SHELTER HOUSE.



BOULDER SHELTER HOUSE, SWAN POINT CEMETERY, PROVIDENCE, R. I.

METHODS OF CONDEMNATION OF PARK LANDS

*From a Report on a System of Parks for Essex County, N. J.,
by Olmsted Brothers, Landscape Architects, Brookline, Mass.*

The principle of excess condemnation is applied mainly for three reasons, first, to secure for the public a larger share of the usually large financial advantages of laying out a parkway, and, second, to make it easy to resubdivide the private properties and relocate streets, brooks and buildings to conform to the changed conditions, and, third, to embody in the deeds of land subsequently sold such restrictions as are desirable to aid in forming suitable conditions of use for residential purposes.

As an illustration of the second reason for having the right of excess condemnation, the following case may be stated: A parkway might be planned to go through an old subdivision using one of the streets, but widening it from 50 to 150 feet. If the blocks on each side were divided into lots 100 feet deep, as is very often the case, the taking of 50 feet on each side of the street would leave lots only 50 feet deep facing on a fine parkway. Such lots would hardly be salable for the class of houses suitable for a parkway and might not stand the usual and necessary assessment. They would very likely be much lessened in value by the laying out of the parkway and might therefore become occupied by a small, cheap class of houses, which would probably be very detrimental to the parkway and to adjoining private property. If, on the other hand, the widening should be made all on one side of the street the remaining lots would be left 100 feet deep, but that depth is hardly adequate for the class of houses which can afford to pay parkway prices and maintenance. Besides, many of the lots might be only 25 feet wide. But worst of all, if the row of lots which would be left backing on the parkway could not be restricted, they might continue to be used for the houses (perhaps two or three-family houses), backing on the parkway, with the family wash and other intimate but unlovely details prominently in view of all people passing on the parkway. With the right of excess condemnation the widening might be made equally on each side and the land taken clear through to the next street, and the lots would be rearranged to be 150 feet deep, and probably not less than 50 feet wide (more likely 60 feet), and would be suitably graded if need be and sold with several restrictions in the deed which would control buildings both in location on the lot and in height and appearance, so that they would face the parkway, but be set well back and yet not present an ugly rear toward the next street and which in other respects tend to secure a first-class residence neighborhood, which would no doubt benefit much other property not facing directly on the parkway.

It would be claiming too much to say that the use of excess condemnation would enable parkways to be laid out in all cases without cost to the public, but there can be little doubt that it would save much money in general and save the whole cost in some cases. It would go far, in fact, toward making parkways financially feasible.

In the laying out of parkways, particularly those which for convenience, economy and graceful adaptations to topographical conditions and to avoid taking buildings, or for other practical reasons, are preferably designed to follow curved lines, it is constantly happening that adjoining private land is left in bad shape. The result is that the cost to the public for damages is very materially increased, while at the same time the betterments are diminished by the present lack of any method of affecting a resubdivision of land near a parkway.

Incidentally, the practice of excess condemnation in the laying out of parkways would greatly simplify and make more just and reasonable the adjustment of damages on the land fronting upon or near to the parkway, and in the majority of cases would be more profitable for all concerned. The excess land taken would simply have to be taken at the then market value. This is a simple fact and one that can be determined with comparative ease and at little cost for lawyers, expert witnesses and other legal expenses. The evidence of a few neighboring land owners would in many cases be conclusive, while if damages have first to be determined and then betterments there is far more likelihood of extreme claims and all sorts of more or less absurd and very expensive expert opinion and sham and likewise expensive evidence.

It should not be necessary to publish plans of proposed parks and parkways in advance of the act of taking the required land, thus enabling land owners to take advantage of the opportunity in various ways at the cost of the public.

There should be some legal way by which the Park Commission could exercise what would correspond to an "option" on property which it contemplates taking. That is to say, the Commission should have the right to pay a small sum for an option on certain lands, the owners of which will agree on a reasonable price, or in case no agreement as to price is arrived at it should have the right to notify any owner that it is intended to take the land within a certain period and that nothing shall be done within that period by the owner that might increase its value, and that a certain sum for the stated period is awarded as damages for this right taken, which would normally not exceed the actual rental value of the property, less receipts. For instance,

suppose a building should burn down on land which the Park Commission contemplates taking within a few years. It should be possible to prevent the owner from rebuilding on that lot. In general it should be possible to prevent any owner from building on any vacant lot that is likely to be needed for a parkway, either by agreement or by an official "taking" of the right. In either case the cost ought not, usually, to exceed the rental value of the lot plus any special legitimate expenses in connection therewith. In other words, the lot should remain vacant, but the owner should lose nothing by agreeing to keep it vacant or by being compelled to keep it vacant. The more common case, however, would be that of preventing vacant land needed for a parkway from being subdivided or streets graded or otherwise improved. The conditions of each case should be considered individually. In some cases the mere knowledge that a certain parkway was contemplated would advance the speculative value of the owner's remaining land so much that he could well afford to agree without charge not to improve the needed land for a term of years, even a considerable term of years, and take chances on the parkway awards and assessments.

The law provides for the payment of assessments for betterments in installments, usually in the form of five equal annual installments, but in the case of such large assessments as parkways involve, the annual installments might well be extended over ten or even twenty years, according to size, or the beginning of installment payments might be put off for five years, or even more varied conditions of payment might be arranged for. The security in almost all cases being ample, the terms of payment may be so adjusted as to reduce the opposition of certain land owners to the laying out of a certain parkway, or certain section of a parkway, on the score of special financial conditions. Some land owners might be very glad to have the payments for parkway assessments postponed until after the improvement is completed and the lots thus made attractive to purchasers and ready for immediate occupation. In some cases interest, and possibly in some cases maintenance, might be added to the principal and collections not begin for from two to five years.

But the delayed payment and subsequent collection of betterment assessments in installments during a longer period of years than is usual, would very greatly and properly lessen the burden to land owners in localities where inadequate transportation facilities or isolation from fully developed suburban conditions might make increase in the number of new houses slow. In most such cases the real estate value of a

completed parkway is more or less dependent upon conditions not under the control of the Park Commission. There may be a reservation in the parkway all graded and ready for an electric railway, yet the latter may not be built for years. The land owners may have favored the completion of the parkway and not have got together to put in the rails and to provide the schools, churches, clubs and stores needed to attract the well-to-do people who can afford to buy the lots and build houses of a kind suitable for parkway lots. The increase in value of the private land adjoining the parkway, in most cases, no doubt will have been more than the amount of an immediate assessment of the whole cost of the parkway, yet most of the land owners may find it difficult to pay the single assessment, or even the five-installment assessment, until money comes in from the sale of lots. Many owners are "land poor." Some others, perhaps few in number but disproportionately influential, may have command of money enough to pay a single assessment without inconvenience, but have so many opportunities for placing their funds profitably that they would prefer to pay on the installment plan, especially as the money would be used mostly for interest and installments in connection with county bonds bearing only four per cent. interest, while these particular owners may feel that they can easily earn twice as much with the money.

An incidental advantage of the long period installment plan of collecting betterments is that it will lead to far less litigation, at a notable saving of time, trouble, nervous energy and expense to all concerned. Suppose the balance of betterment over damage should amount on a certain lot to \$300. Suppose the market value to have been raised from \$500 to \$1,500. Suppose the regular tax to have been increased from \$10 to \$30 in consequence of the laying out of the parkway. For many an owner a sudden call for the \$300 assessment in cash in one payment would not only be irksome, but would tend to arouse combativeness, even though he might be conscious that the lot has been increased in value by the parkway by an amount far more than \$300. Supposing the assessment is to be paid in twenty installments, beginning five years after the completion of the parkway, the interest at 4 per cent. to be added. The amount would be larger, but how different his attitude toward the matter would be! During the five years he might have sold the lot. In that case he would have had the choice to pay off the balance of assessments in a lump sum out of the purchase money, or to let the buyer assume the obligation. In either case he would feel all right toward the Park Commission, or he may have held the lot vacant during the five years. If so he would have had time to get used to the changed conditions. More houses would

have been built. These would generally be occupied by prosperous people—by people above the average in that respect. There could hardly fail to be a prevailing feeling of satisfaction with the parkway, and there would therefore be a spirit of optimism in the locality exceedingly favorable to land values. The lot owner in question would not then have a feeling of oppression in beginning to pay the comparatively small installments. Or he may have built a residence on the lot. In that case he would have needed to borrow \$300 less at 6 per cent. A saving of 2 per cent. a year on \$300 for five years might not appeal to him as of very great moment, but the avoidance of a cash payment of \$300 before he started to build, at the very time he was straining to save up money for building, would make a vast difference in his attitude toward the Park Commission and the parkway scheme. It may be objected that to postpone for five years the collection of a parkway assessment is unsound financing. On the other hand it may be good policy, if not carried to excess, to help many people to build homes much above the average along the parkways by thus lending the credit of the county, with entire safety, at 4 per cent. to individuals, who would undoubtedly have to pay 6 per cent. for it if they had to borrow it. There would, it is true, be some clerical and other expense to the county in thus extending the time for payment of assessments, but this may be offset against the general benefit of the method, or it may be added to maintenance expenses, or the interest rate may be increased to cover it. At any rate, the method would almost certainly greatly reduce litigation, and the saving to the county in that way would probably far more than offset the clerical and other expenses of the installment system.

The district form of assessment is well developed in some States, but is sometimes applied rather carelessly and unscientifically. The law should be such as to provide that the assessing commission shall act only as the result of considering one or more reports of one or more experts acting jointly or independently, as may be suitable in each case. These experts should be unbiased and yet should spend time enough in examination of land and records and should ascertain the opinions of land owners on all pertinent questions and should weigh them and finally report their own opinions on pertinent questions to the assessment commission. The main questions in this matter of districts would be to establish just and proper boundaries for each rate of percentage or square foot assessment. The usual simple and brain saving method of defining zones bounded uniformly so many feet from the side line of a parkway is a crude and often very unjust method. In some cases the laying out and building of a parkway may add very markedly to the value of all the land on

one side of a parkway within a mile or even much more, while in the other direction the readily ascertainable betterment may be limited to one or perhaps two or three tiers of lots only, and in some cases a parkway might not only increase the value of neighboring land but might actually decrease it, as for instance, if the land were valuable for large manufacturing plants and would be cut in two by the parkway and yet, being low, it might remain very unattractive for a good class of residences. The usual zone system of assessment not only is not scientifically adapted to such cases, but tends to prevent proper attention to the actual availability of each tract or lot for some use for which the parkway would be a direct or indirect, ascertainable benefit. In general, a parkway would be of most benefit to vacant land otherwise suitable for residences and for such other demand as arises in a residence neighborhood and probably of little value to a well developed factory or canal property, unless, in the case of a factory, the parkway should provide a needed electric railway or a needed sewer location, or by its width tend to lessen the fire risk or for some other utilitarian reason. It is clear, too, that lots occupied by fairly durable tenement houses or in that kind of neighborhood would not be benefited as much by a parkway as vacant lots in a neighborhood having only a good class of single family houses. In the former case it would generally be difficult to raise rents, even though the neighborhood had been rendered more attractive, unless the transportation facilities were markedly improved by the parkway and the destiny of population suddenly increased. In the latter case the benefit would be realizable, but would be held down by the previously existing character of the neighborhood. It would only be in exceptional cases that enough owners would tear down cheap tenements and replace them by better ones or by single family houses of a good type, to fully realize on the parkway benefits.

The general tendency is for a densely built up neighborhood to deteriorate, because many individual owners, either through poverty or ignorance or a shortsighted, mistaken policy, do not spend enough for paint and repairs. The natural result is that many tenants are continually moving out into new buildings. In many cases owners should follow the policy of accumulating a sinking fund to cover the cost of tearing down and replacing antiquated buildings by modern ones. Their failure to do this lowers the character of some neighborhoods. Some owners do not resist the temptation to accept ever poorer and poorer tenants rather than lose rent by vacancy, or do not pay for a good agent's services. Hence in determining the boundaries of parkway assessment districts mere distance from the parkway is sometimes a minor consideration. Availability

of the land for a good class of residences is often the really important consideration.

A metropolitan form of assessment for parkways comes under consideration only as incidental to a metropolitan system of parkways for which as yet no adequate laws exist. The introduction of the automobile and motorcycle, as well as the increase in the extent of the suburban type of residential districts and their spread into county after county outward from New York, makes it increasingly necessary to devise parkways on a more comprehensive scale than has been or can well be done by particular counties acting independently. It might well be that many residents of Madison and Morristown would like a parkway from New York, or at any rate from Jersey City or Hoboken, by way of the north end of South Mountain and the residential sections of Essex County, partly in order to be free of the car tracks and the heavy, slow-moving freighting wagons and crowded condition of the old main roads, partly to reduce the number of dangerous grade crossings, partly to secure a smooth, hard pavement, and partly to avoid the more or less closely built up sections, with their swarms of people and their many sordid, unlovely features, and partly to pass through the more agreeable farming and woodland and suburban residence sections. The levying of as-

sessments by a metropolitan commission in different counties, according to the benefits ascertainable, would be almost the only way of so distributing the financial burden of such an extensive and expensive parkway as to make the undertaking feasible.

The matter of annual assessments for maintenance of parkways has not received as much attention on the part of the public authorities as it should. Better laws are needed. In some cases the law permits the assessment annually of an arbitrary amount per front foot on land abutting on the parkway. (For instance, see Charter of Kansas City, Mo., Art. 13, Sec. 34.)

In the case of parkways so located and improved as to form valuable parts of state automobile routes, the state should make a suitable contribution, both to the cost of laying out and improvement and to the annual cost of maintenance. In both cases the amount should have some correspondence with the value of the parkway from the point of view of automobilists and to the relative wealth of the county and state, or, in other words, their relative ability to pay. The state might reasonably derive much of its contribution from automobile licenses, which should vary with the weight and power and speed of the automobile.

PARK INSTITUTE OF NEW ENGLAND AT LOWELL.

The Park Institute of New England held a busy, well-attended and enthusiastic meeting at Lowell, Mass., November 18, and enjoyed a program of addresses and discussions that were of much value in spreading knowledge of modern methods of management in parks and playgrounds.

The meetings were held in the aldermanic chamber of the city hall and the principal address of the day was delivered by James B. Shea, first deputy commissioner of parks of Boston. Other speakers were John H. Dillon, chairman of the Boston Park Commission; Joseph McCaffrey, supervisor of playgrounds of Providence, R. I., and George A. Parker, superintendent of public parks, Hartford, Conn. Questions were asked and answered and the discussion was at all times interesting.

George H. Hollister, superintendent of Keney Park, Hartford, Conn., and manager of the Park Institute, called the meeting to order at 2:35 o'clock and introduced Mayor Dennis J. Murphy, who said, in part:

"It is a great pleasure to meet the members of the Park Institute. Lowell always welcomes an organization which has for its principal object the development of greater civic pride and beauty. We here are hampered as the citizens of many cities are, through the small appropriation which is made annually for the upkeep of a park system. But it is astonishing how much has been done here on

from \$12,000 to \$15,000 a year. We cannot have any too many playgrounds and parks. Our boys and girls are much responsible for their development to the environment, and parks and playgrounds contribute very much towards the sum total of the proper environment. I trust that in the near future Lowell will have a large sum of money to place at the disposal of the park board."

Robert F. Marden, president of the Lowell Board of Trade, was next introduced, and he said:

"The whole public of Lowell is trying to go to the Casino, at one and the same time, gentlemen. I have come here to assist in greeting you and to ask you to go to see Lowell's industrial exhibit. Perhaps you can explain the psychology of such a movement. The Park Institute has struck Lowell when Lowell is boiling on just one thing—boiling over its wonderful display of manufacturers. If we can make the public spirit turn itself to account for park improvements we may then be able to get to the real park system, which you gentlemen know so much about. We have river banks here, which are now dumping grounds, and which can be made into beautiful parks. All we need is public spirit. Our mayor is back of all that we do. The organization which I represent is not political, but we like to have the mayors with us. The park system needs the backing of the public. We have some very remarkable places here, capable of wonderful development. I hope you will leave here the seeds of some of the fine things which are needed. I congratulate you, Supt. Kernan, upon the gathering you have here today."

John H. Dillon, chairman of the Park Commission of Boston, was then called upon by Manager Hollister. Mr. Dillon said:

"No one who has met the young mayor of Lowell would doubt for a moment that he would be anywhere except for a progressive park system. No man as progressive as he is, but that realizes

that a park system is the lungs of a city. Every dollar expended is returned three-fold. When environment is such that tired women and sickly children of the tenement houses, during the sultry blasts of mid-summer, can go to an open space where there is green grass and clean air, and can rest there, then the original expenditure is worth a hundred times its first value, for park spaces and green grass and fresh air bring back to life and health many a tired mother and sickly child.

"Parks are not of recent origin. They date back to the times of the early Greeks and Romans, and we are simply following in the footsteps of the first great civilizers. Where cities have created park systems, they are not only attractive but they save many dollars to the people in the summer months. Parks should be for the people, there should be no 'keep off the grass' signs on them. They should be thrown wide open. Playgrounds should be open at all times. They are the greatest possible inducement to keep the boys off the streets. And I will go a step farther. More public buildings should be opened evenings, for the very same reason.

"It would be hard to realize what the people of the west end of Boston would do if it were not for the common. At night, in summer, the people of that district sleep there. And I cannot imagine what thousands would do if they were forced to give up the use of Franklin park. On pleasant Sundays in summer, from 75,000 to 150,000 go there, and many who go, take their meals there with them.

"The work the park superintendents of various cities are doing is very closely allied with character building. The strength of the youth is increased, stamina is built and the morals are kept right. These are the points the youth of today must have, for, in a very few years they are to take our places, and they will be expected to build better than we have done. And there is no better way to increase strength and health than to provide adequate parks and playgrounds."

Joseph J. McCaffrey, supervisor of playgrounds of Providence, R. I., spoke particularly on playgrounds, as follows:

"There must be suitable apparatus in playgrounds if the children are induced to go to them," he said. "And there should be fencing about all playgrounds. The only punishment which can be meted out to a playground patron who transgresses the rules is expulsion from the grounds. Fences also serve to protect the girls and the smaller children from molestation. And the shrubbery is better protected in this way. I believe in the sand-bin as a means of engaging the attention of the smaller children. The sand sterilizes itself. I believe in swings, but am against regular gymnasium equipment because too many accidents occur when it is used. And if swings are used, they should not be the high ones. All equipment should be placed at the rim of the grounds, for the centre is needed for the playing of games. The 'giant's stride' is another good piece for the older children. The smaller ones should not be allowed to use it. A slide gives a great deal of satisfaction, but it should be of wood. Steel slides are all very well until the warm weather comes, and then they get very warm, and, if scratched at all, rust. The ideal arrangement for a playground is to have it divided into three parts, one for the boys, one for the girls and one for the smaller children. Garibaldi park, in the Italian section of Providence, is on three distinct levels, and it is considered an ideal arrangement by many. Of course this could not be done everywhere. Of course there should be huddlers and sanitaries placed on all playgrounds, and it would be a good thing to have water taps on them, also, for in very hot weather it is very desirable to wet down the grounds."

Mr. Dillon thought that there is very little danger in the swings, but was opposed to the slides. Wooden slides, after a time, get very splintery, and children suffer as a consequence. Boston children like the swings, he said, and also merry-go-rounds and the teeter ball. Mr. Dillon was opposed to the sand boxes, as it is impossible to keep them sanitary when small children play in them.

Mr. McCaffrey said that merry-go-rounds are very costly, and the children,

if they ride much on them, are apt to become nauseated.

James B. Shea, deputy commissioner of Boston, favored the merry-go-rounds, as twenty or thirty children may ride on them at one time.

John W. Kernan, local superintendent of parks, asked Mr. McCaffrey if there are public baths attached to the playgrounds in Providence. Mr. McCaffrey said that in summer there are eighteen school baths for children.

Harvey B. Greene, local park commissioner, asked: "What do you do in an industrial way?"

Mr. McCaffrey: "For the girls we have raffia weaving, sewing and domestic science, and for the boys chair caning."

Mr. Greene: "One of the problems here is to find something for the boys to do besides play."

Mr. McCaffrey: "Chair caning is about the only thing I know of, although two or three boys have taken up sewing to my knowledge."

Questioned by W. W. Colton, of West Newton, Mr. McCaffrey said that a Mr. North made a survey of the playgrounds of Providence some years ago, and that the result was privately published. Before that survey was made, however, the playgrounds were well established there, he said.

Mr. Dillon said that the slides in Boston had caused one very serious accident, to which S. Wales Dixon, superintendent of playgrounds of Hartford, Conn., replied: "One accident of this kind should not cause the abandonment of slides altogether. It doesn't seem as if there are many accidents on the swings either. The teeter ladder may have some. In fact, the children who incur accidents are those who break the rules. I believe in merry-go-rounds."

Mr. Dixon said further that he believes in sand games, even though they are not the most sanitary things in the world. He believed it did a lot of good to let the children come in contact with the soil.

James B. Shea, for twenty-five years deputy park commissioner of Boston, was next introduced, and made a fine address, which is printed in full on another page in this issue.

The meeting adjourned shortly after 4 o'clock, the members of the Institute taking automobiles for a trip through Fort Hill and Shedd parks and out the Andover street boulevard. Later they went to the Kasino for the industrial exhibit, and at 6 o'clock dinner was served at the Richardson Hotel.

At the conclusion of dinner, Mr. Parker gave an address, outlining the park system in Hartford, Conn., and suggesting what might be done in Lowell. On motion of Mr. Shea a vote of thanks was

tendered the Mayor, the Park Commission of Lowell and the Lowell Board of Trade.

Among those present at the meeting were: George H. Hollister, superintendent of Keney Park, Hartford, Conn.; George A. Parker, superintendent of parks, Hartford; S. Wales Dixon, superintendent of recreation, Hartford; Robert L. Parker, supervisor of construction work, park system, Hartford; A. V. Parker, superintendent of parks, Worcester; Harold J. Neale, city forester, Worcester; Thomas A. Holland, supervisor of playgrounds, Worcester; Warren F. Hale, superintendent of parks, Salem; Willard B. Porter, park commissioner, Salem; Henry Frost, superintendent of parks, Haverhill; L. Walter Stevens, Haverhill; Isaac Kelley, superintendent of parks, Lawrence; Edward

P. Adams, engineer of the park department, Medford; W. W. Colton, forest commissioner, West Newton; H. A. Reynolds, secretary of the Massachusetts Forestry Association, Boston; John H. Donnelly, superintendent of parks, Cambridge; Herbert W. Headle, landscape architect attached to the park department, Springfield; John H. Dillon, chairman of park commission, Boston; James B. Shea, deputy commissioner of the park department, Boston; Frederick C. Greene, superintendent of parks, Providence, R. I.; Joseph McCaffrey, superintendent of playgrounds, Providence, R. I.; William E. Fisher, superintendent of Franklin Park, Boston; Thos. F. McKay, chairman, and Alexander E. Roundtree, Harvey B. Greene and Clarence M. Weed, and Superintendent John W. Kernan, of the Lowell Park Commission.

RIGHT TO PROHIBIT BURIAL OF NEGROES.

In the case of *Leathers vs. Odd Fellows' Rest*, 69 Southern Reporter 858, the Louisiana Supreme Court decided that, under the facts there involved, defendant could not be required to restore the body of a colored person to a grave from which it was removed in a "white" cemetery.

Plaintiff owned a burial plot, measuring six by nine feet, in the cemetery of defendant, for the purpose of burying a colored servant therein, with the express intention of making the same use of the lot for herself and husband, that, as plaintiff claims, they might "lie in the same grave, so that even in death they would not be separated." The colored servant was buried in the place indicated on Saturday. On the following Monday morning the defendant removed the body of the colored servant to a neighboring cemetery. Plaintiff brought suit on the ground that such act on the part of defendant's agent caused "petitioner great mental anguish and pain; that petitioner has greatly suffered through the illegal acts of the defendant, and has sustained a severe nervous shock by the acts of defendant in removing the said body, and on account of said suffering, physical and mental, she has been damaged in the full sum of \$10,000, which she is entitled to recover from defendant; that petitioner expended \$176 for the burial of Harriet Blade, all to no purpose now, a useless expense, caused by defendant's illegal, willful act and violation of petitioner's rights, which sum petitioner is also entitled to recover from defendant."

She prayed for a mandatory injunction, requiring the defendant to replace the body of Harriet Blake in the Odd Fellows' Rest Cemetery, in petitioner's lot, or that the defendant be enjoined from preventing or interfering with her in placing the body in said lot, and for judgment for damages.

In affirming judgment dismissing the suit, the Supreme Court said:

"Plaintiff does not hold a formal title to the plot of ground over which this controversy has arisen; she paid \$25 on account of the purchase price, and was to have paid the remaining \$25 within 60 days. She therefore has no title to the property. Had title been issued to her, there would have been no question as to the right of burying a colored person in the lot, for the title distinctly recites:

"The lot of land shall not be used for any other purpose than as a place of burial for only white people and of good character."

"But plaintiff, who is a white person, represents and testifies that she informed the agent of defendant that the lot was to be used as a burial place for a colored servant, and she claims the right to use it for such purpose. The secretary of the defendant, with whom the transaction was had, testified that he was not informed that the servant referred to was a colored person; that he supposed that she was a white woman; that he could not have, and would not have, sold the lot for the purpose of burying a colored person therein; and that plaintiff consented to the removal of the body.

"The testimony in the case on behalf of the respective parties is totally irreconcilable. The trial judge, who saw and heard the witnesses, was of the opinion that plaintiff had failed to make out her case with legal certainty, and his finding will not be disturbed.

"The body of the colored woman was removed by the defendant on Monday morning after the burial into an adjoining cemetery, where it may rest in peace; and the removal of the remains from a recently purchased burial plot to another newly

purchased lot, in the nature of things, cannot work any great harm or damage to the plaintiff. As regards the severe nervous shock alleged by plaintiff to have been sustained by her, resulting from such removal, she simply testified: 'My health has

been very bad. I have been very sick from it.' This evidence is hardly sufficient upon which to base a judgment for actual damages resulting from the alleged illegal acts of the defendant as set forth in the petition."

PARK COMFORT STATION OF MODERATE COST.

Our illustration shows an interesting type of park comfort station of moderate cost. It is the first building of the

plumbing. The bandstand or pergola has a floor of 42 feet by 15 feet 6 inches, and the toilet rooms are 8 by 10 feet,



CONCRETE COMFORT STATION, SACRAMENTO, CAL.

kind to be erected in Sacramento, Cal., and is the gift of Mrs. Cornelia E. Fratt. It is built of reinforced concrete throughout, with the toilet rooms lined with marble to a height of six feet. It has terrazzo floors and the best sanitary

with a room of the same size between for the storage of tools and supplies. The total cost, including plumbing and connection with sewer, was about \$2,400. It is in Fremont Park, one of the numerous small parks, a block in area, and in an exclusive residence neighborhood.

NEW BOOKS ON LANDSCAPE WORK.

"Landscape Gardening as Applied to Home Decoration," by Samuel T. Maynard, is an excellent little book containing much practical information about trees, shrubs and plants, as well as the arrangement of grounds, large and small. The author, in writing this book, has had in view chiefly the problems that perplex the owners of small country places. In the new edition of this book a good portion of the text has been revised and rewritten, many of the old illustrations replaced and a good many new ones added. Consideration has been given to every detail in order to bring this book up to the latest practice, and to maintain the reputation which it has acquired—a practical, condensed work that shall enable the home-owner and builder, occupied with the daily cares of business, to make beautiful his surroundings. The advice of many specialists has been obtained. Professor A. C. Beal, of the New York State College of Agriculture at Cornell University, has aided materially in this revision, laying stress

on the chapter devoted to hardy herbaceous plants, roses, sweet peas, etc. The table of contents is as follows: Landscape Gardening and Home Ornamentation; Ornamenting New Homes; Preparation of the Land; Trees—Their Planting and Care; Shrubs, Hedges, and Hardy Climbers; Walks and Drives; Renovating and Improving Old Homes; Country Roads and Roadside Improvements; Parks, Public Squares, School Yards, etc.; Description of Trees; Evergreen Trees; Ornamental Shrubs; Hardy Herbaceous Plants, Tender Bedding and Climbing Plants, etc.; Aquatic Plants, Hardy Ferns, and Ornamental Grasses; Insects Injurious to Ornamentals; The Home Fruit Garden. It is published by John Wiley & Sons, 432 Fourth avenue, New York, and sells for \$1.50 net.

"The Garden Handbook," a Manual of the Perennial Garden, by Leicester B. Holland, with more than 200 illustrations and color chart for garden planting, has just been received. The publishers claim this to be the one com-

plete book of reference containing all the practical, needed information about the two hundred hardy perennials. Its distinguishing feature is a color chart which shows at a glance the height, the time of blooming, the color of bloom, preference for sun or shade, wet or dry soil, fragrance, cutting qualities—in a word, the whole story of all the dependable perennials. In addition to this chart there is a page given to each perennial, on which there is a photographic reproduction of the plant, together with text setting forth its character, description, cultural directions and enemies, all carefully enumerated. In a special blank form opposite each of these descriptions space is left for notes from the amateur's own experience. With this book as a guide in planning a garden or hardy border it becomes an easy matter to secure as accurately as one desires such generally troublesome effects as continuity of bloom throughout the season; disposal of plants with reference to height, color, time of bloom, fragrance, sun or soil. The book is commended as being of unusual value to the gardener or landscape architect who is concerned with the larger aspects of form and color in the garden in relation to the house or building. The author, Leicester B. Holland, is an instructor in design in the School of Architecture in the University of Pennsylvania and worked out this material to fill a long-felt want in the correlation of landscape and building architecture. The book is published by Doubleday, Page & Co. and sells for \$3.50 net.

"Rural Improvement," by Frank A. Waugh, aims to present the first rational and comprehensive study of the principles on which are based the rural improvements being promoted by granges, boards of agriculture, boards of trade, agricultural colleges and other agencies. For some years Professor Waugh has made a specialty of this subject in connection with his teaching, lecturing, and writing on general horticulture and landscape gardening. He has also had in hand the practical management of many of these rural improvements, so that he knows the concrete conditions as well as the theoretical principles. The following table of chapters will show the scope of the work: Definitions and Principles; Means of Access; Roads and Streets; Street and Roadside Trees; Civic Centers; Public Grounds in Rural Communities; Home Gardens; Farm Planning and Development; Community Planning; Rural Architecture; Incidental Problems; Improvement Programs; Organization and Finance. The book sells for \$1.25 and is published by Orange Judd & Co., 315 Fourth avenue, New York.

DUTIES OF A RAILROAD GARDENER

*Address before the Convention of Railway Gardening Association by
E. A. Richardson, Landscape Gardener, Boston & Albany Railway.*

A railroad gardener having direct charge of a station or a number of stations is what is being considered under the above subject.

He supplements his chief who may broadly plan the station grounds with its drives and foot approaches, but who has not the time to perfect all the details which will make the most of its possibilities. The lines of these approaches may need modification as the traffic of the places changes, and the gardener, if observant and interested, can see better than most people where they can be altered for the convenience and safety of the public.

Before a station building is started, by conversation with passengers, tradesmen and station agents, he can often suggest a better location than is made in the office or draughting room, where certain details in daily use cannot be thought out or foreseen.

He can study up the trees, shrubs and plants that do well in the locality where the station is to be, with the soil and subsoil of the immediate location of the building and its grounds, and send all this information to his chief, who will pass it along to the designer and planter.

Certain localities have a lawless, uncultivated element who either use the station or pass constantly by it. The designer and planter should know of this element so as to be on guard against the planting of certain shrubs and plants that would certainly meet with destruction. The local gardener should be a good scout for his superiors on these lines.

A railroad gardener is an educator and needs patience, self-control and the persistence to wait until people will come to the place where they will appreciate the value of stations well planned, well kept and attractive to the eye and to the imagination.

If his work has been properly proportioned, he can always have his station grounds in a neat condition; if so kept, they will always be attractive, even if they are small and simply treated.

To always keep these grounds in such a condition will very likely require quite a little study of the use of trains and may often lead to the putting in of overtime when train connections are poor or weather conditions are bad for any length of time, thus destroying for the time being the regular schedule or plan of work. Pride in his work and loyalty to his chief, who may perhaps get all the credit from the general public, will lead to the keeping up of all the places in first-class condition.

It may be found that the area of ground allotted to the local gardener is more than he can properly take care of. He should be the first one to find this out, and after thinking the different details over he should present them to his chief in a simple, dignified statement without exaggeration; he should do this for his own sake, for the reputation of his chief and for the general good looks of the grounds in his charge. His superior officer is not infallible and does not pretend to be, and cannot be expected to know exactly how his plan of division of work can be carried out in detail.

A careful study of the tools that are now on the market which make it possible to do work quicker and better should always be in the gardener's mind. After the tools are furnished they should be kept in perfect order; a rusty tool can never do the efficient work that a polished one can, and it is surprising how little time it takes if it is done systematically.

The chief is not supposed to think out the details of the daily work of his subordinates, that is the subordinate's part. A wise chief will leave his helper to do

this for himself and it should cultivate self-reliance and self-respect.

The local gardener is supposed to be a walking encyclopedia of horticultural and agricultural knowledge. This often means quite a little reading of various papers, books and government bulletins; in other words, of his being posted on what is going on in the various lines of working soils, treatment of manures, use of fungicides and spraying apparatus, not only on his own lines, but outside of his particular line of work.

Now, if he can cultivate a genial disposition and a considerate treatment of the people he has to meet, he can often head off disagreeable, annoying letters to headquarters.

In closing, one can repeat that the duties of a railroad gardener are those of supplementing the general plans of his chief in the treatment and care of the station grounds entrusted to his charge, thinking out and working out the details by observation and by careful planning of each day's work; by also being well stocked with general information on horticultural information and having a patient and genial way of imparting it to those who may ask for this information.

CEMETERY CHAPEL OF GOOD ARCHITECTURE.

Oakwood Cemetery, Rochester, Minn., has recently erected a very fine type of chapel that is illustrated on this page.

This building will seat about 150 and has a lifting device in front of the pulpit by which the casket is lowered into the basement and then taken into the vault in the rear. This vault has 48 crypts. This chapel is built of New Hampshire

granite and is fireproof in every respect, with tile floors and tile wainscoting and finished inside with cathedral oak, including the seats. It is electrically lighted. The chapel was erected as a memorial chapel to the late George Healy, who left the residue of his estate to Oakwood Cemetery, and it cost about \$30,000. The architects are Long, Lamereaux & Long, of Minneapolis.



GOTHIC CHAPEL, OAKWOOD CEMETERY, ROCHESTER, MINN.

THE SELECTION OF DUST PREVENTATIVES

*Abstract of a section of "Dust Prevention," Bulletin
No. 27 of the Ohio State Highway Department.*

There are many factors to be taken into consideration in selecting a proper dust preventive, chief among them being the type of road under consideration, the condition of its surface, the character of the traffic and the standard of living of the community, as well as the amount of money available. Although the method employed under one set of conditions might be entirely unsuitable for another, in a general way, it is possible to obtain satisfactory results by the careful selection of materials.

Pavements.—Inquiries have been received by the State Highway Department as to the method of laying the dust on a brick street, and the advice has been to "clean it." Attempts have been made to apply oil and various preparations for retaining the dust on such pavements, but such methods are to be condemned. The only satisfactory way to keep brick, asphalt, wood block and concrete pavements clean and dustless is to sprinkle and sweep them, or, in some cases, flush them with water under pressure. There will ordinarily be no dust nuisance on such pavements built in rural districts with sunken curbs, as the rain water will keep them clean.

Suburban Roads.—The suburban stone road offers the widest choice of methods of dust suppression, the choice depending largely upon the degree of permanency desired. For the most lasting results, either the heavier tars or asphaltic oils may be used, while for less lasting results the choice lies between the lighter oils or tars, the emulsions, calcium chloride and various patented preparations. If there are hydrants at convenient intervals along the road, salt solutions or emulsions may be used. If an emulsion is to be used, that product containing the greatest amount of binding base per unit cost should be selected, unless it possesses some other quality such as a strong, disagreeable odor which makes it undesirable. While, as stated, the selection of the material must be governed by local conditions, it is believed that in most cases the more permanent methods of dust suppression will be the more desirable.

Park Roads and Race Courses.—These are considered together, not necessarily because of a similarity in type, but because the temporary binders are especially suited to both types. On such roads the traffic conditions are considerably different than on other types. In the case of a speedway, the use in general is limited to a very short time, while traffic on park roads is chiefly confined to the summer months. It is, therefore, ob-

vious that in many cases the best economy would not be obtained by the use of the more permanent dust preventives. A treatment of calcium chloride has proven very satisfactory for race courses, and for park and similar roads, subjected to traffic for a longer time, oil and tar emulsions have been used advantageously.

Rural Roads.—The number of methods of dust prevention to select from for roads of this class is much more limited than in the case of suburban roads. It is apparent that the temporary treatments are not applicable to most country roads for the reason that a convenient water supply, required for the use of the oil emulsions and salt solutions, is not available. Rural roads may be classified as hard roads and soft roads, hard roads including brick, concrete and macadam and soft roads including gravel and earth, the gravel sometimes being worthy of a place in the first classification. The material to be selected will depend upon the kind of road to be treated. Brick and concrete roads will be maintained in a comparatively dustless condition by rain water and need not be considered further. The most satisfactory method of treating macadam is by a surface treatment of hot asphaltic oil or refined tar covered with gravel, slag or stone chips. Other things being equal, this method is recommended in preference to cold treatments with

lighter oils and tars, for although these are applied at a much less cost, the results are not so lasting. If, however, the road cannot be cleaned so as to expose the large stones in the surface, the lighter oils and tars are likely to give the better results. Provided both are of suitable grade and of good quality, there is not much preference between oil and tar for this class of work. A good tar is preferable to a greasy paraffin oil, and a good asphaltic oil is far better than a poorly prepared or high temperature tar. Gravel roads have been treated with both oil and tar, but more generally with the former. In the case of a good, hard gravel road, practically the same treatments as recommended for macadam may be applied. The cold surface treatment has been used to a greater extent than the hot treatment for this type of road, and Gultrin has also been used to some extent.

It may be said in conclusion that it is essential to give careful consideration to all local conditions governing the selection of proper material and the proper method of application. Care must also be taken to secure good quality in the material which is selected, which means that the material should be examined and tested. It is also important that the treatment should be renewed as soon as the condition of the road demands it, if it is desired to maintain the road in good condition and free from dust.

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department

Cleaning Mausoleum Interiors.

Editor Asked and Answered: What provision should be made for cleaning of mausoleum interiors, such as scrubbing, etc.?—H. B., O.

It would seem to me that there would be a very great variation in the care of the interior of these vaults. The smaller, simple vaults might be satisfactorily cleaned, I think, on the income of \$300. Then for the more elaborate interiors, where there would be considerable bronze, mouldings, corners, etc., I think possibly the income on \$2,500. These prices would not include repairing.

We have found Wyandotte detergent to be the most satisfactory compound that we have used for cleaning.

R. TRIGG,

Supt., Cedar Bluff Cemetery.

Rockford, Ill.

In this cemetery there are very few mausoleums, but from 1860 to 1870 a large number of side hill tombs with vestibules were built. Nearly all of these

are provided with perforated marble or bronze doors, so that frequent attendance is needed.

The superintendent of interments is provided with a book in which are listed the tombs for which the corporation is responsible. About once a week the workmen wash the floors, dust, etc., as may be needed, and return to the office a time card with the usual data.

It was considered desirable that men of more than average appearance should attend funerals, so a special department was created with sufficient force to give proper attendance and flexible enough to meet emergencies. The problem of finding work for these men in the intervals was solved by turning over to them the washing and care of tombs and monuments. By keeping an exact account of the time spent, a fair idea can soon be had of the proper charge to be made for the work.

J. C. SCORGIE,

Supt., Mt. Auburn Cemetery.
Cambridge, Mass.

In considering the query of your correspondent, we will assume that he refers to private vaults or mausoleums; that he wishes to adopt some practical plan to provide for the cleaning of the interior for an indefinite time, or perhaps in perpetuity, and that it is the intention of the trustees or management of the cemetery to have the necessary work attended to on behalf of the owners.

The common practice in most cemeteries, I believe, is to give such care as may be requested by the owners of mausoleums in cleaning, painting the exterior, or other work deemed necessary to keep the building in proper order and repair, doing the work at stated times or when necessary, and rendering a bill annually for the cost of the work performed.

This plan may seem to accomplish all that is desired, and so far as cleaning the interior is concerned, is perhaps all that is necessary, since it provides for such care as may be desired and at a fair cost for the actual work performed during a fixed or indefinite period.

To save the owner trouble and authorize the cemetery management to continue the work until the directions are modified or countermanded, a permanent order may be accepted. In lieu of the annual bill a further saving of trouble to the owner may be affected by the deposit of a sum of money in open account estimated to cover the expenses of the work for a period of years.

It seems unnecessary to comment further on this plan. In its efficiency an ordinary business proposition only is involved. Details adjust themselves to circumstances. The work is regularly attended to and the bills are paid annually or in advance as suggested. The cemetery authorities are attentive to the wishes of the owner of the vault or mausoleum and he is entirely satisfied. But what of the future, when time will have worked its inevitable changes? I need not go into detail or endeavor to picture the consequences when the temporary order for care has expired and renewals have ceased to be made, as they surely will if we trust to future generations. There is but one safeguard that is practicable and sure, namely, an endowment. An adequate amount deposited in trust provides unfailingly for the purposes intended. It may only be cleaning, as suggested by your correspondent, but however trifling that may be compared with the infinitely more important problems of providing for the maintenance of the structure itself, it is the question now at issue and is important so far as it goes. We should willingly take even a temporary order to give such practicable attention to a mausoleum as the owner wishes, but we should urge him to provide for its care in perpetuity.

In estimating the amount presumably required, we must first determine the nature of the work and expectation of the owner of the structure. It may be his wish to have the interior opened at stated intervals, inspected, and if necessary, cleaned, say, for example, once a week during the months of April to October, inclusive, and once a month for the remainder of the year, or he may be particular to have it kept in perfect order at all times, necessitating constant, almost daily attention. Simple dusting and occasional washing may be all he desires, or he may want the walls scrubbed or dry rubbed, according to the nature of the interior finish, brass work polished, or other work attended to to keep everything in first-class order. Having ascertained his wishes, an estimate of the cost of the work involved is made to determine the amount of the endowment required to yield a sufficient income on a basis of, we will say, 3 per cent to adequately cover all expense. It is evident that the proper charge to be made will depend on the aggregate cost of the labor or material the work will involve.

The amount of the endowment so estimated will, of course, be only approximate, but so far as experience goes, may be reasonably conservative. In entering into an agreement for the performance of any work in perpetuity I will suggest that the contract be made no more binding on the trustees of the cemetery than obliging them to expend the income of the fund deposited in doing such work as may be necessary from time to time in the accomplishment of the purposes stipulated in the contract, but not requiring them to do more than the income of the fund will allow.

JAMES CURRIE,

Supt., Forest Home Cemetery.
Milwaukee, Wis.

Salary of Cemetery Superintendent.

Editor Asked and Answered: Please advise me what the customary salary for a superintendent of a small private cemetery of about 126 acres is per month, or should be, in your opinion, in a city of about 25,000. What do you think about \$100 per month and a new house, with water, light and heat furnished? Would this be high for the duties of a superintendent?—M. J.

In the middle west, in a city of 25,000 population, 100 to 150 acres of cemetery land should yield \$100 to \$125 per month. With a house furnished, a good man can make himself worth much more in a city of 25,000, and if the wealth of the city is above the average he can raise the standard of cemetery development, thereby increasing the land value as a cemetery, and also advancing the sales in his

cemetery by keeping it up to a high standard.

HARE & HARE,
Landscape Architects.

Kansas City, Mo.

This is like a great many other queries that are sent in—practically impossible to answer. It simply demonstrates what is constantly coming to our minds, that the average man does not realize that the conducting of a cemetery is a technical business which requires skill and experience.

If, as is usual, the intention in this case is to pick up some local man who does not know any more about running a cemetery than a rabbit does about climbing a tree, it does not make any particular difference what they pay him because he will be an expensive proposition anyway. If the people running the cemetery are business men they should proceed as they would in any other business enterprise: try and find some man with experience, training and ability and pay him what his services would properly be considered worth, provided the extent of the business would justify the expenditure.

The only way of figuring in the question of the house in connection with the salary is to fix on a salary without regard to the house rent and then let the superintendent pay from his salary what the actual rent of the house is worth, always bearing in mind that it is a great advantage to the cemetery to have the superintendent live on the grounds and at the same time in many ways is a disadvantage to the superintendent and to his family, that there are apt to be disagreeable things, especially for the woman and children of a family, connected with living in a cemetery, so that the rental of the house furnished the superintendent in the cemetery cannot properly be charged at the same rate that the same house would be worth in a good, desirable residence location.

The amount to be paid the superintendent also would depend to a certain extent on whether he was not only compelled to fill the position of superintendent, but to do the bookkeeping, practically act as secretary, and, in fact, be the only official, giving his time to the cemetery work. I would not expect a competent man to accept the charge of a 126-acre cemetery for a less salary than \$2,500 per year, with reasonable prospects for an increase in salary as his ability to handle the business was demonstrated.

W. N. RUDD,
President, Mt. Greenwood Cem.
Chicago, Ill.

Wants Grave Brace.

Could you refer us to a firm or several firms who manufacture a device for bracing graves while digging? We have some sandy soil in our cemetery and

thought perhaps there was a device for bracing ditches or graves.—C. H. Y., Ia.

The only manufacturer of a grave brace we know of is A. H. Havard, 1210 Stoughton street, Urbana, Ill.

Keeping Water in Artificial Lake.

(Discussion at Ohio Cemetery Convention.)

I should like some information in regard to an artificial lake I am having trouble with. There is a leakage in it and I have not been able to overcome it. We expect to try to do something with it this summer, clean it out or make it deeper and find a better bottom for it. I thought there might be somebody here who could give us some information on it.

Mr. Glass: We have had trouble with our artificial lake since the flood, and we have put a cement border all the way around to keep it from washing, and we figured that the roots of the trees might have broken it. We never had any trouble before and we think that the willow trees have affected the cement base, and we feel that if we can get that mucked again it will be all right.

Carl E. Kern: Of course there are very complex questions that arise in regard to lakes, and the usual method and the oldest method of keeping water within your basins is by puddling it, puddling your clay in forming your basin. There are many other things that cause us to lose some of our waters, especially due to the works of animals. Among those, I wish to mention the muskrat. They are a very dangerous citizen to have around any kind of water, and their constant burrowing and digging will cause the most serious cave-ins, or you will lose a large percentage of the water and you don't know where it goes to. Now, in order to overcome that effect, the most simple way is to stone the edges of your lake, if you can get hold of flat stones, and prevent the muskrat from getting hold in your banks. Then another agent which causes a great deal of trouble is the crawfish or the land crab. No doubt you all know the crawfish, the little crab-like animal, capable of dig-

ging through the most solid and hardest of clay, and in order to overcome this on the dams and banks, I have used sulphate of copper. Wherever the holes are dug in the surface just drop a little sulphate of copper and that is the end of Mr. Crawfish, and he will quit digging. So much for the lakes that happen to be puddled. Of course, in some instances we have to resort to the use of concrete, although that is a very expensive proposition at times, and it involves a great deal of time and labor at all times. Nothing gives so pleasing an effect as when we confine ourselves to the excavation.

Another matter I wish to mention is that it seems to me that one of the things that seriously detracts from the beauty of our waters is the growth of what is commonly called "skum" or algac. You no doubt know what I mean, and the sure cure for that is sulphate of copper or blue vitriol, in the proportion of 15 pounds of sulphate of copper to approximately a million gallons of water. So that it takes very little to destroy these low forms of plant life in the water and it will clear up again to its former purity and beauty.

Mr. Glass: In regard to lakes and keeping them clean, I want to say that I know of an artificial lake that is used for fire purposes, where they pump the water from the lake, and it got so that you could hardly see the water, and an insurance inspector came along and he told them if they would put a pair of swans in there he would guarantee that in three years there would be no moss there, and they put the swans in, and you can't see a particle of moss now.

The President: What do you do to keep the swans in their proper place?

Mr. Glass: We haven't had a particle of trouble. We don't do anything. We turned them loose in there six weeks ago and they have never been out.

The President: Don't they make the shore look bad?

Mr. Glass: No, sir.

Mr. Sloan: I would like to inquire if

the placing of this copper sulphate in the water is not a serious thing for the fish that may be there?

Mr. Kern: It has no serious effect upon the fish at all, as long as you don't exceed the proportion I mentioned, fifteen pounds to a million gallons of water. If you apply it stronger than that you are apt to kill the fish, and they will turn up on their backs; also have a bad effect upon the water lily—that is a higher form of plant life than the algae. The algae is the lowest form of plant life that we have, and the effects of the copper poisoning is so rapid that it takes but very little to exterminate the algae. It will also destroy the disease germs that may be in the water.

Placing Receiving Vault Beneath Chapel.

Editor Asked and Answered: Is there any objection to placing a receiving vault beneath a cemetery chapel, providing a lifting device is installed for elevating the bodies into the chapel for services? Can instances be given where this has been done?—A. P. B., Ill.

Will readers who have had experience with this form of construction or who have information on this problem give this department their ideas and suggestions?

Removing Ground Ivy.

There is a little vine that is growing in our cemetery and in some places it has killed out the grass; in other places there is about half vine and half grass. I enclose you some of the vine and would like to know if you know of any way to get rid of it.—J. B., Ia.

The plant you enclose, *Nepeta Glechoma*, known as "Ground Ivy" and "Creeping Charlie," is sometimes useful as a ground cover in shady places. It is an attractive plant and is not always a weed. When it becomes a weed it can be dug out and removed like other weeds and grass seed sown in its place.

O. C. SIMONDS,

Landscape Gardener, Graceland Cem.
Chicago, Ill.

FINE SCULPTURED PARK MEMORIAL

The memorial to former Governor Altgeld of Illinois, recently unveiled in Lincoln Park, Chicago, is a notable addition to the public works of monumental sculpture in that city. It deserves to rank as one of the four finest public sculptures in Chicago, the other three being Saint-Gaudens' Lincoln, in Lincoln Park; Mr. Mulligan's "Miner and Child," in Humboldt Park, and Mr. Taft's "Fountain of the Great Lakes" on the Art Institute grounds.

It is the work of Gutzon Borglum, of New York, and is different from the other public monuments in Chicago in that it is

the first of the "intimate portrait" type, mounted on a low pedestal, so that the sculptured group is almost on a level with the observer. Few public monuments can stand inspection at such close range, and Mr. Borglum's group is sculpturally effective from every angle and at every distance. Technically it is a masterpiece. It successfully combines the ideal and portrait elements to a remarkable degree. In making a dignified and impressive portrait statue of Governor Altgeld the sculptor had a most difficult task, for it is hardly possible to imagine a more physically un-

heroic figure than the late Governor. The sculptor has so subordinated and disguised the subject's physical peculiarities by making the symbolic figures serve as a background that he has made a really sculptural and impressive figure and at the same time preserved enough of the personal element to make it a characteristic and striking representation of the Governor in action.

He has succeeded admirably in "sculpturizing" the character of Altgeld as it is seen by his friends, who conceived this memorial. The sculptor represents Altgeld as

acute, thinking, alert and wishing to befriend the laboring man. He is portrayed with outstretched hands, and at his feet are a man, a woman and a child, typifying the family of the workingman, who are shown as under his protection.

The details of the features of the symbolic group have been subordinated to the general effect in a rarely successful manner, so as to suggest in a general way the character and the attitude of the poor family. The sculptor realized that a clear and definite rendering of beautiful figures here would have detracted from the interest in the central figure and has most cleverly subordinated everything to the expression of the character of the man memorialized.

The bronze group stands on a low pedestal of red Westerly granite, not more than two feet high, and this in turn stands on a wide circular platform raised very slightly above the wide, sloping, open lawn on which the memorial is placed. The pedestal is polished and is decorated with a wide band of carved leaves.

John F. Gall was the local contractor for the erection of the work and it was set for him by George Archer & Son.

It was unveiled with much ceremony by state and local officials. The principal address was made by Governor Dunne, who paid high tribute to the subject of the statue, praising him for his stand in pardoning the anarchists from Joliet peniten-



ALTGELD STATUE FROM RIGHT.

tiary and for resenting the move of President Cleveland in sending troops to Chicago during the strike of the American Railway Union.

EXCHANGE PROFESSORSHIP IN LANDSCAPE GARDENING.

The Massachusetts Agricultural College and the University of Illinois have ar-

ranged an exchange of professorship in landscape gardening for the present year. Professor R. R. Root, head of the department in Illinois, will come to Massachusetts for two weeks in December to give a special course of lectures in landscape gardening. During the same time Professor F. A. Waugh, head of the department of the Massachusetts Agricultural College, will go to Illinois and deliver a course of lectures and exercises before Professor Root's students.

This is a somewhat novel departure in college teaching, but has in it the promise of success. It will, of course, be a distinct advantage to the students in both institutions to get in touch with another teacher and to secure a new point of view. It is expected to arouse considerable interest in the course by this method. The Massachusetts Agricultural College and the University of Illinois have two of the largest and strongest departments of landscape gardening in America, and both are endeavoring to turn out practical men well equipped for the profession. In the past much of the teaching in this field has been of the strictly amateur variety. While the amateur point of view is highly important in gardening and should be constantly encouraged, it is equally important that a few institutions should give thorough-going professional courses not only in agriculture, horticulture, floriculture, forestry, etc., but in the highly specialized field of landscape gardening.



ALTGELD MONUMENT, LINCOLN PARK, CHICAGO.

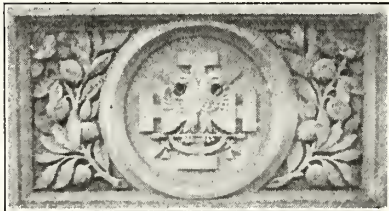
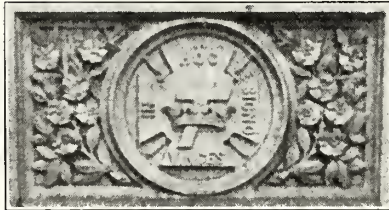
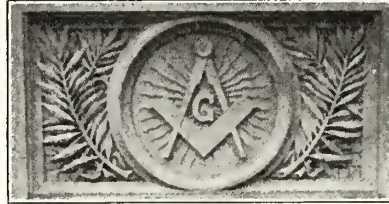
MASONIC SECTION IN MOUNT GREENWOOD, CHICAGO.

One of the largest Masonic plots in any cemetery in the country is that in Mount Greenwood Cemetery, Chicago, where an entire large triangular section has been set aside for use of members of this order. This section is on sloping ground, near the

from the quarries of Boutwell, Milne & Varnum Co. On the four sides of the die are handsomely executed Masonic symbols carved in high relief. To the well-posted Mason every detail of the carving, as shown in our illustrations, tells its story



MASONIC MEMORIAL, MT. GREENWOOD CEMETERY, CHICAGO.



CARVINGS ON FOUR SIDES OF MT. GREENWOOD MEMORIAL.

center of the cemetery, and at its highest point is placed the stately Corinthian column illustrated here.

The Masonic monument was erected by funds acquired from setting aside 10 per cent of the net amount received from sales of lots in the Masonic section. The sales in this section are restricted to Masonic and affiliated bodies, Masons and to families of Masons, for the purpose of burying a deceased Mason.

The shaft is 9 feet square at the base and 40 feet high and is of Barre granite

symbolically. The monument is surmounted by a flaming lamp and across the base are the words, "Let there be light," thus symbolizing one of the great objects of Masonry.

At the other two corners of the triangle are a Doric and an Ionic column, respectively, of smaller size. A Mason will understand the triangular symbolism indicated by these three monuments.

The cost of the work was about \$6,500. Chas. G. Blake & Co., of Chicago, were the contractors for these monuments and all the work was done at their plant.

PARK NEWS.

The Kansas City *Star* recently gave considerable space to an illustration and description of the plans prepared by Hare & Hare, of that city, for the development of

the site of the Hillcrest Country Club. It is situated on one of the highest points in Jackson County, overlooking Swope Park, the valley of the Blue River and a broad

panorama of rolling hills. It is well wooded and lends itself admirably to landscape development. This is the third Kansas City club improved by Hare & Hare. They have also closed contracts for a 24-acre residential park property in Kansas City, Kan., an extension of Westheight Manor, recently platted, and an 18-acre residential park at Salina, Kan.; Tarkio College ground at Tarkio, Mo.; also a number of fine home grounds in Kansas City, Omaha, Neb., Salina, Kan., Tulsa, Okla., etc., some twenty in all, together with a great deal of cemetery work now under way.

The Civil Service Board of the West Chicago Park Commissioners will hold the following examinations. Application blanks may be obtained at the office of the board in Union Park or at the West Park playgrounds: Examination No. 179—Plumber, Class G, Grade II. Original entrance. Pay, 68¾c to 75c per hour. December 22, 1915, at 9 a. m., at the Garfield Park Pavilion. Open only to residents of the town of West Chicago. Applications must be filed in the office of the Civil Service Board in Union Park before 5 p. m. of December 21, 1915. Examination No. 181—Gardener, Class G, Grade II. Original entrance. Pay, 28¼c to 37½c per hour. December 28, 1915, at 9 a. m., at the Garfield Park Pavilion. Open to men between the ages of 21 and 50 years on the day of examination. Applications must be filed in the office of the Civil Service Board in Union Park before 5 p. m. of December 27, 1915. Note: These examinations are being held in order to obtain a list of eligibles for filling vacancies in the service for the next two years. There are no vacancies at present. Fred G. Heuchling, Superintendent of Employment.

T. B. O'Connor, 85-year-old custodian of Budd Park, Kansas City, died recently. For twenty-five years he had charge of the park. Mr. O'Connor learned landscape gardening in Ireland. For many years he was employed by A. A. Budd, who twenty-five years ago gave Budd Park to the city and it was made a part of the grant contract that Gardener O'Connor should take care of the twenty-five acres of the park as long as he lived.

Work will soon be commenced on improving the city's park system at Bartlesville, Okla. Bonds will be sold which will bring about \$45,000 for this purpose.

A landscape gardener will be engaged by the city commission of Joplin, Mo., to assist in preparing plans for beautifying Schifferdecker Park. The park comprises 160 acres. Forty acres were given to the city more than a year ago by Mr. Schifferdecker, and in his will he bequeathed to the city an additional 120 acres.

Ray F. Weirick, of Des Moines, landscape architect, is working on plans for a

garden court for the Henry Wallace place in that city. One of the features introduced into the plans will be a stone snow-lantern. Mr. Weirick is also developing a beautiful parking scheme for the Progress Club at Clear Lake. This includes a general plan of development for the lake front and for the town.

The Arboricultural Association of Southern California held their eleventh semi-annual convention November 11 and 12 at Redlands city hall. Many interesting papers were read and addresses delivered.

A petition has been presented to the municipal government by the Inyo Good Roads Club, of San Francisco, on behalf of the Midland Trail Association and its affiliated interests, requesting that in the contemplated esplanades along the ocean, west of Golden Gate Park, there be a combination of architectural features to suitably denote the end of a road that spans the American continent. It is suggested to adopt a structure of reinforced concrete. Mark Daniels, general superintendent and landscape engineer of national parks, has prepared plans. Two passageways through the sea wall are connected on the ocean side by a roadway that describes a segment of a circle, with the outer curve at the water's edge. One of the reasons for this feature is to afford a driver, who is concluding a transcontinental journey, opportunity to immerse the wheel rims of his car in the waters of the ocean and thus in its most literal sense complete a tour to the Pacific. Next to the openings just described, and toward the center of the design, are two semi-circular niches, each

with a sanitary drinking fountain and flag-staff in its center and low parapet on side looking oceanward. Next are two structures, each with an entrance leading to a public convenience station on a lower level, accessible also from the beach. The facade presents a slightly concave front with a seat its entire length. Between the recess formed by the curved wall and the main promenade is a narrow parked strip with sufficient floral effect to offset the sombreness that might otherwise prevail. Above the seat is a series of connected bronze tablets forming a long, comparatively narrow, horizontal panel depicting in relief approximately the course of the Midland trail between Washington with its New York connection and San Francisco, and showing thereon the locations and names of the various cities in which the trail passes through. Then rising above the wall proper the well-known piece of statuary entitled "The End of the Trail" will be placed.

New Parks and Improvements.

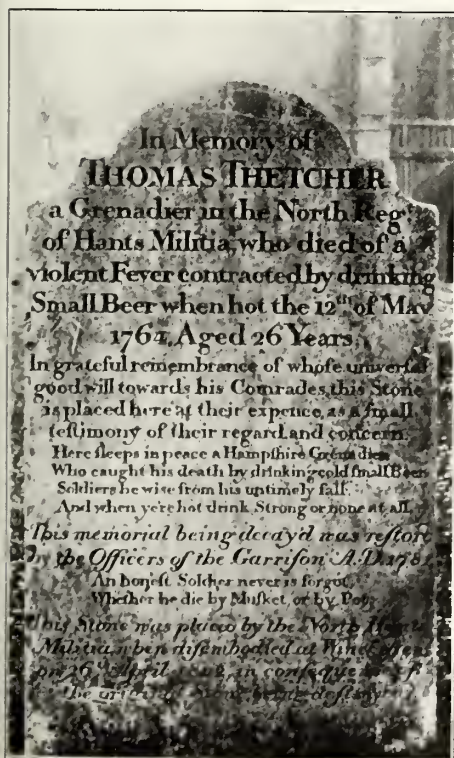
The city of Grand Rapids, Mich., recently purchased the Tuinstra property adjoining John Ball Park on the southeast from Dr. Perry Schurtz at a cost of \$7,500. The land comprises twenty lots and will be planted by Superintendent Eugene Goebel. Miss Rebecca Richmond recently donated to the Grand Rapids Park and Boulevard Association a ten-acre tract of land in the northwestern part of the city, to be known as "Richmond Hills," in honor of her father, William K. Richmond.

Forty thousand dollars has been appropriated by the city of Battle Creek, Mich., for improvement of its park property and

157 more acres will be devoted to this work. Irving Park will comprise 55 acres along Burnham Brook, extending from Sprink Lakes to Garfield avenue. It will include two lakes, upper and lower, connected by lagoons, and a children's playground, tennis courts for adults, and a pioneer log cabin, to contain historical exhibits, are other features. Verona Park will contain 95 acres. Here will be located baseball, football and athletic fields, a free golf course, a boat landing on Battle Creek and beautiful picnic grounds in natural woods. Piper Park will replace Piper's Pond, on Maple street, north of Wabash avenue. Seven acres of land will be turned into a playground for children, with a lake just deep enough for wading, meandering walks, but no driveways, and a two-story shelter house. Piper Park and Irving Park were donated to the city, but Verona Park was purchased.

Extensive additions and improvements in the park system of Louisville, Ky., entailing an estimated outlay of \$423,800, are proposed in the budget which has been prepared by the Board of Park Commissioners for the present fiscal year. Among the large items are the proposed acquisition of Fontaine Ferry Park as an addition to Shawnee Park, at an estimated cost of \$125,000, and purchase of playground sites aggregating \$165,000. The suggested land purchases would total \$313,400 and the improvements declared to be needed at once would necessitate an outlay of \$110,400. General John B. Castleman was unanimously re-elected president of the Board of Park Commissioners at the annual organization meeting.

TYPES OF FREAK MONUMENTS



READ THE INSCRIPTION.

In nearly all of the famous old freak epitaph collections will be found the one about the grenadier who died from the effects of drinking cold small beer. We show in one of our illustrations a photograph of this stone with the inscription covering is so legible that most of it may be read in our reproduction.

The sailors who went down on the famous battleship Maine were recently honored in Arlington National Cemetery with a monument that is a replica of the mainmast and fighting top of the battleship. This mast, with the anchor, some of the guns and much other wreckage, was raised by the government when the hull was raised and given a burial out at sea. All bits of metal and odds and ends of material that could be used in any manner have been distributed all over the country to form memorial tablets and slabs for patriotic organizations. But to Arlington were brought all the bodies that were recovered, and also the most magnificent portions of the ship, of which the anchor and two guns, sent seven years ago, have since



"MAINE" MAST AS A MONUMENT.

marked the entrance of the Maine section of the cemetery. When this monument was planned, the plot of ground set aside for it was of fixed dimensions and of circular shape, so that of necessity any pedestal made for it had to be of circular shape. Taking into consideration the nature of the memorial and the character of the mast, the principal feature, it was concluded finally to construct a base, following in many respects the contour of a battleship turret. This idea seemed to the architect, Nathan C. Wyeth, of Washington, to be best in keeping with the sturdy

appearance of the mast. His design was approved and settled upon by the Fine Arts Commission. The names of the victims of the wreck are inscribed on the exterior, showing their various ranks as well as the general inscription, with dates and details. As the weight of the mast with the fighting top is 22,660 pounds, a serious problem confronted the contractors in the arrangements for foundations of necessary strength. The whole mast is painted a dull gray, to harmonize with the color of the stone, and follows the same color tones as on modern battleships.

Sarchet, E. L. Simmons and J. A. Ecklund, of New England.

This year, in addition to the regular work on the cemetery at Chillicothe, Ill., the fence on the north side has been taken down and in place of it a hedge of spirea has been planted. Shrubs have been set out along the driveway and in other places, and in the "circle" a handsome concrete vase has been placed, and this also is surrounded by shrubs.

Little Blue River Cemetery has been incorporated at Rushville, Ind. The trustees are William S. Newhouse, A. Earl Wright, James A. McDaniel and Dayton L. Gilson.

The city of Mt. Pulaski, Ill., is contemplating purchasing more ground for the cemetery, which will probably be bought adjoining the old cemetery and made a part of it.

The Dysart Cemetery Association, of Traer, Ia., has recently had a fine fence built around the cemetery. It is a 38-inch woven-wire fence with barbed wire at top and bottom.

The ladies of Bethlehem Township, Ind., who were interested in the improvement of Metea Cemetery, recently met at the Metea church and perfected an organization known as the Metea Cemetery Association. The following officers were elected to serve one year: President, Mrs. Warren Tracy; vice-president, Mrs. E. Moore; secretary, Mrs. O. P. Brown; treasurer, Mrs. J. Yantis.

The old City Cemetery of Carmi, Ill., was recently cleaned up and tumbled monuments straightened. Mrs. Fanny Maffit and Miss Mary Stewart had charge of the work and solicited funds for this purpose.

The council has accepted the proposition of F. O. Jannasch, 1153 Gull street, owner, to purchase the property of about 100 feet frontage, at a price of \$3,200, for an addition to Riverside Cemetery, of Kalamazoo, Mich.

Eight more blocks of ground, between Third and Walnut streets, have been added to Oak Ridge Cemetery, Springfield, Ill., by virtue of the incorporation of the new portion recently secured by the Board of Managers of the cemetery. The added portion lies west of the old burial ground.

Thirty acres on the east side of McKenzie road, about one-fourth of a mile north of Gravois road, were purchased recently as the site for a cemetery by the English Evangelical Lutheran Church of Our Redeemer, Oregon and Utah streets, St. Louis, Mo. The plat shows a drive in the cemetery as forming a huge cross extending straight east almost the entire width of the tract from the main entrance on McKenzie road. The cross is completely circled by a great horseshoe curved drive, thus lending symbolism as well as beauty to the general design. The cemetery will be laid out in lots of from single graves to lots 16x18 feet.

CEMETERY NOTES

The two-year contract of Sims & Sims to handle the development and sale of the Fairlawn Cemetery Association grounds of Decatur, Ill., expired recently and the cemetery will now be handled by the association itself through the offices of Bennett & Shade.

Fire of unknown origin practically destroyed the tool room and sexton's office in Greenwood Cemetery, Canton, Ill., recently. The plat of the cemetery, which hung in a frame on the wall, was destroyed, together with many valuable records of which there are no duplicates. A two-room brick building, 14x22 feet, with composition, fireproof roof, will replace the one destroyed.

A suit was tried in Judge Guthrie's court recently in which Mrs. Sarah Binkowitz and others are asking for an order restraining Dr. Henry Oppenheimer, of New York, from removing bodies from an old Jewish cemetery between Eighteenth and Nineteenth streets on Cleveland avenue, Kansas City, Mo., upon which property Oppenheimer foreclosed a mortgage. The petitioners are seeking to retain the land as a cemetery.

The grass caught fire in Calvary Cemetery, St. Joseph, Mo., recently, and the smoke blackened many monuments and tombstones.

Mart Howe, superintendent of the Nation Cemetery at Keokuk, Ia., has left to become superintendent of the Fort McPherson National Cemetery near Omaha, Neb. Mr. Howe will be succeeded by John Harrigan, who was the superintendent of the Fort McPherson Cemetery.

Action in the Supreme Court was taken recently in the Shelby County case involving the new burial ground at Findlay, Ill., in which J. B. Sutton sought an injunction restraining the Findlay Cemetery Association from underdraining the graveyard on the grounds that it affected his adjoining farm lands. A decree was entered in favor of Sutton, prohibiting the association from either under or overdraining

Sutton's property, but permitting the grounds to be used for burial purposes if it can be done without the necessity of draining under or over the Sutton farm.

New Cemeteries and Improvements.

C. A. Misenheimer, of Charlotte, N. C., and associates recently formed a corporation by the name of Oaklawn Cemetery, Inc., and have purchased 126 acres of land within the city limits to develop a cemetery. They are now grading and improving the ground in general and building the superintendent's house and entrance and will soon have the ground in shape for interments.

Over 1,500 numbered porcelain-faced markers were placed recently on the various lots in the Waterford Rural Cemetery, Waterford, N. Y.

Glen Oak Cemetery Co. was recently incorporated at Chicago with a capital of \$50,000.

About a thousand feet of drainage tile is being put down in Pleasant View Cemetery, Kewanee, Ill., by the city engineer's department, under the direction of Commissioner W. P. Bauer of the Department of Finance and Cemeteries. The line will extend through the center of the cemetery.

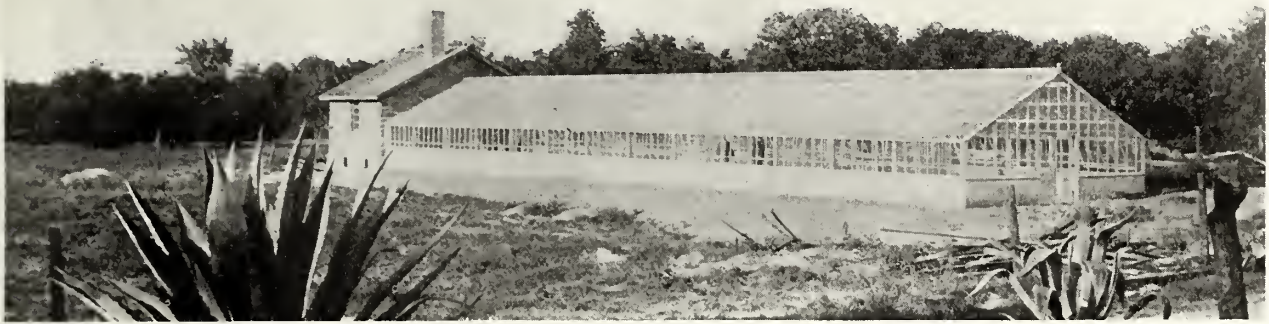
Calispell Cemetery Association was incorporated recently at Calispell, Pend Orielle County, Wash., by Henry Broadrock, D. L. Freestone, L. C. La Force and Lavinia La Force.

A new cemetery for Holland, Mich., is planned by Dr. J. S. Hughes. The location joins Macatawa Park on the south and the interurban railroad runs along the site of the chosen place.

The new addition to the Monmouth Cemetery, Monmouth, Ill., has been graded and sodded, the lots platted and the ground will soon be opened to the public.

Driveways in Mt. Hope Cemetery, Champaign, Ill., are being macadamized.

The New England Cemetery Association, of New England, Hettinger County, N. D., was incorporated recently by George A.



General Purpose House at Oak Forest Cemetery

OAK Forest Cemetery is located at Hinsdale, Ill. Here is a greenhouse built of the best of materials and in the best way possible to meet the general purposes for which it was intended. No fuss and feathers—just a plain, practical proposition.

It is iron frame. Its cost is reasonable, considering the quality of the work and the fact that built as it is built, it ought to last half a century or more.

One we built over thirty-eight years ago, at Columbus, Ohio, for the State University, is still in surprisingly good condition.

If that house has lasted thirty-eight years, our present ones—the way we build them now-a-days—ought to last twice as long, if given even half-way care.

If you have a limited amount to spend and want to make it buy a greenhouse that will continue to continue satisfactory for you in the years to come—then we should like to correspond with you; or if you desire it, come and talk the matter over.

Our catalog you are welcome to.

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Schramm Portable Compressor in Maple Grove Cemetery, Brooklyn, N. Y., drills rock, excavates for roads and graves, and letters monuments.

The illustration shows how one Cemetery has found an easy way of drilling rock, a convenient aid in road building, a time and money saver in excavating in hard soil, and a money maker and a trouble saver in lettering and repairing monuments in the Cemetery. Will soon pay for itself if rented for lettering monuments in the Cemetery.

Send for complete description and prices; also get our prices on our line of pumping outfits, tree and shrubbery sprayers, lawn mowers and other gasoline engine-operated outfits.

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PHILADELPHIA, PA.

The plans for the Muzzy Memorial Chapel to be erected in Oakwood Cemetery, Geneseo, Ill., have been adopted by the officers of the Oakwood Cemetery Association and F. E. Muzzy, of Springfield, Mass. It will be erected at the foot of the hill, at the fork of the road entering the cemetery.

Old Elliott Park at Matteson, Ill., was purchased some time ago by a Chicago

An effort is being made in Mishawaka, Ind., to arouse public interest to raise a sum sufficient to purchase the Borley addition for cemetery purposes.

Cemetery Officers Elected.

The Maple Hill Cemetery Association, of Cromwell, Ia., recently elected Mrs. R. Colbert president and Miss Allie Alton secretary.

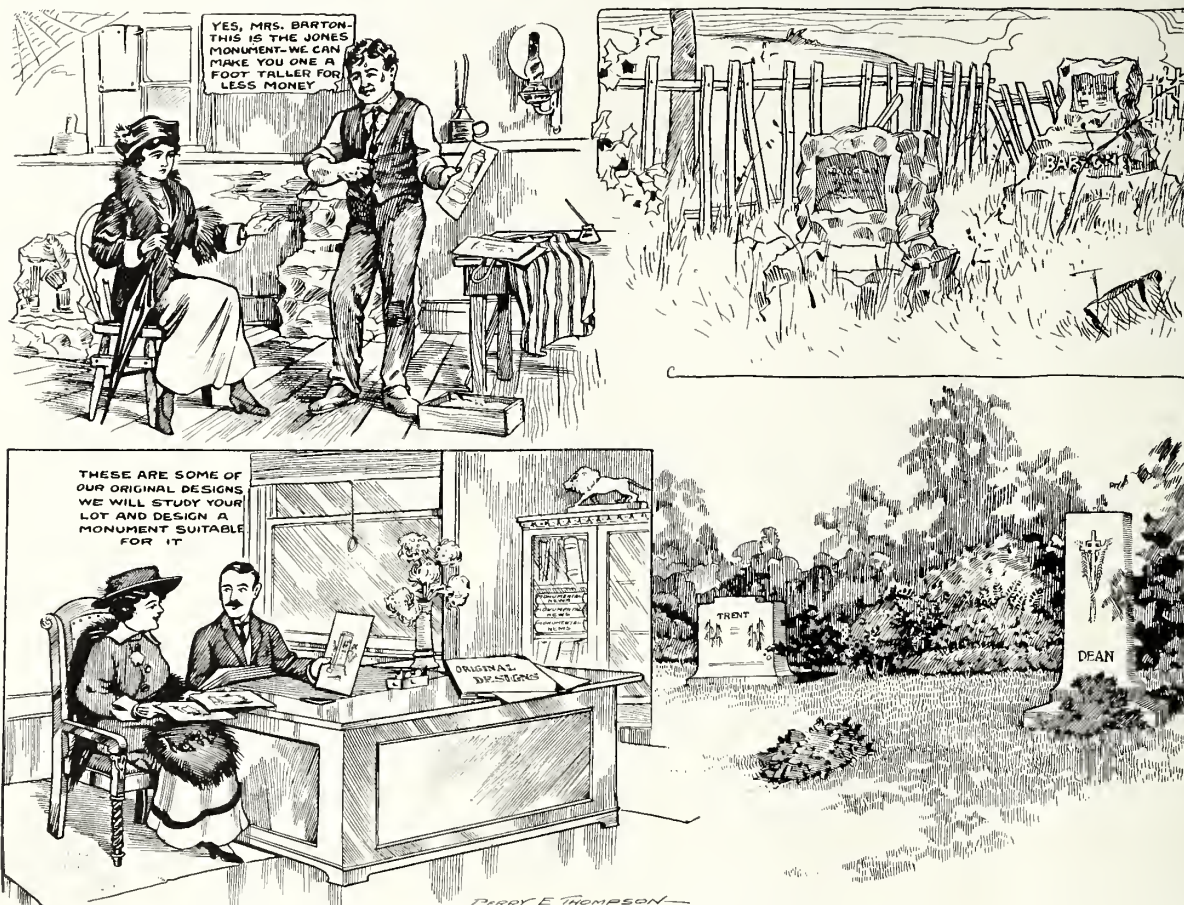
The West Mound Cemetery Association,

of Pana, Ill., has elected Mrs. Delos Travis president and Mrs. John Longsdorf secretary.

Town of Maine Cemetery Association at its annual meeting in the city hall, Park Ridge, Ill., re-elected Chas. Duwel president and elected G. M. Foster secretary.

Mrs. Lillie Mitchell has been elected president and Mrs. Pansy McElhinney secretary of the Geneseo Cemetery, of Traer, Ia.

SELLING A MONUMENT—YESTERDAY AND TOMORROW



concern, who are turning the park into a cemetery. The cemetery will be known as Fair Oaks. Surveyors are now engaged in platting the land.

People interested in Mosher Cemetery, near Monmouth, Ill., recently cleaned up the ground. Some of the headstones which had become dislodged were righted or replaced in position and other work incident to cleaning up was done. An organization was also formed to maintain the cemetery and Lee Lucas was elected chairman, Ellsworth Davis, secretary, and Mrs. H. R. Moffet, treasurer.

The road commissioners of Havana, Ill., are having some work done on the cemetery road running east out of Havana.

The people of St. Michael's Roumanian Catholic Church, of Aurora, Ill., expect to dedicate a cemetery there in a short time. The tract contains six acres and was purchased for \$2,500 from Mrs. Katherine Mitchell.

THE COVER ILLUSTRATION.

On the front cover of this issue we show an illustration of the ornamental iron entrance gates and fence enclosing beautiful Magnolia Cemetery, Charleston, S. C. The picture brings out very forcibly the beautifying effect of a suitably designed and well built iron fence and entrance gateway. And it has other advantages, such as protecting the grounds and preventing vandalism. It is an improvement that every modern cemetery should have, and from the large number of cemetery associations who are installing iron fence, it would seem that the big majority are alive to its many advantages.

There are few cemeteries in the country that are prettier in their general scheme of landscape and natural scenery than Magnolia Cemetery, and it is given the necessary care and attention to keep it always

up to the highest standard of modernism. That its superintendent, officers and directors are thoroughly progressive is shown in its splendid condition.

The fence and gates represented in our illustration were designed, built and erected by The Stewart Iron Works Co., Cincinnati, O., in June, 1914. The contract consisted of approximately 2,000 feet of fence, two walk gates and a pair of drive gates. The latter is 14 feet wide; the walk gates 4½ feet wide; the fence is 6 feet high, constructed of ¾-inch square pickets, set diagonally and spaced 5 inches on centers; line posts are 1 inch square with 8x8x1-inch cast iron bottom plates, ¾-inch braces and set 30 inches in the ground.

This is in every sense a cemetery enclosure of more than average style and dignity.



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The protection of public and private property from thoughtless and viciously reckless people is a problem that baffles the authorities in many communities.

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Cyclone fence is now generally adopted by those in charge of parks, cemeteries and private estates because it forms a continuous woven steel guard around the grounds which is non-climbable and practically indestructible

The fabric in this fence is extra strong. It is made of heavily galvanized wire; deeply crimped pickets are set 1½ inches apart and the cables are firmly locked in the deep corrugations. The two top cables are spaced 2½ inches apart to give a double lock and additional strength where most needed.

We are the largest manufacturers and the recognized leaders in fence construction work in the country. We originate our own patterns. Our fabric is distinctive in design, in its even spacing and in its superior strength.

Cyclone Property Protection Fence appeals to you because it is economical—cheaper than wood, for it is weather-proof, fire-proof, repair-proof. It gives the grounds a substantially finished appearance, which harmonizes with the most elaborately beautiful surroundings. Cyclone Fence is sanitary—does away with the damp, decaying, unsightly fence line; does not obstruct the view; does not harbor trash.

We make special prices to churches and cemetery associations for advertising purposes. Illustrated catalog free on request.

We make a specialty of building Entrance Arches for Cemeteries, Parks and Private Grounds. We build them in various artistic designs, of the most durable materials, and guarantee them to satisfy. Uprights are of extra heavy tubular steel, with pressed-steel anchor bases. Scroll work of heavy wrought iron securely riveted. All heavily galvanized or painted black enamel as desired.

Our engineering department will advise and co-operate with superintendents of parks and estates to solve their fence problems free of charge. Construction engineer furnished to superintendent erection at nominal cost.

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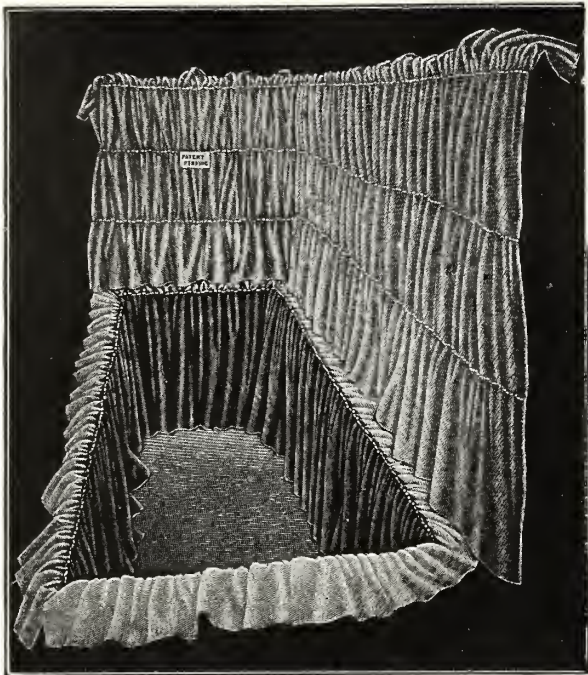
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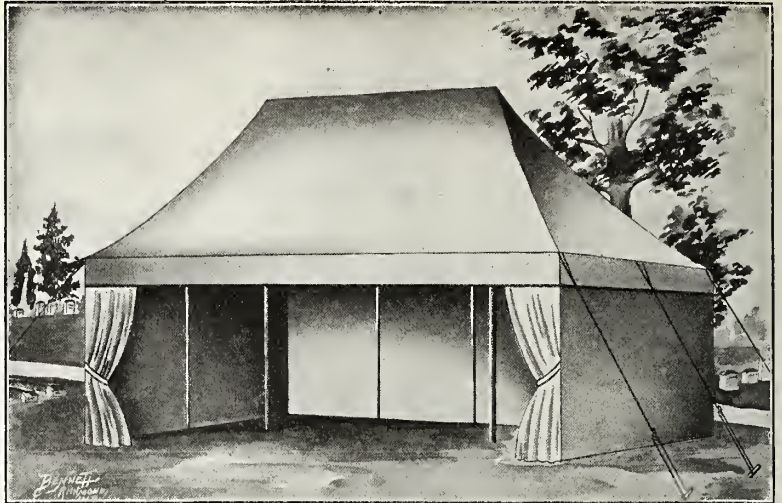


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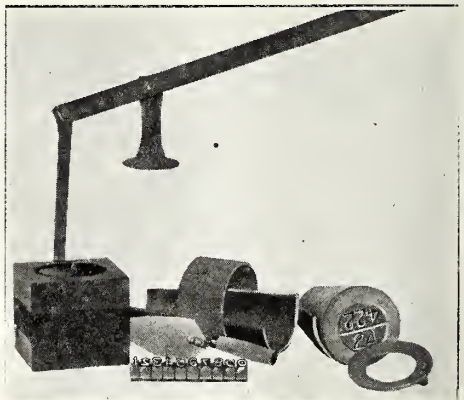
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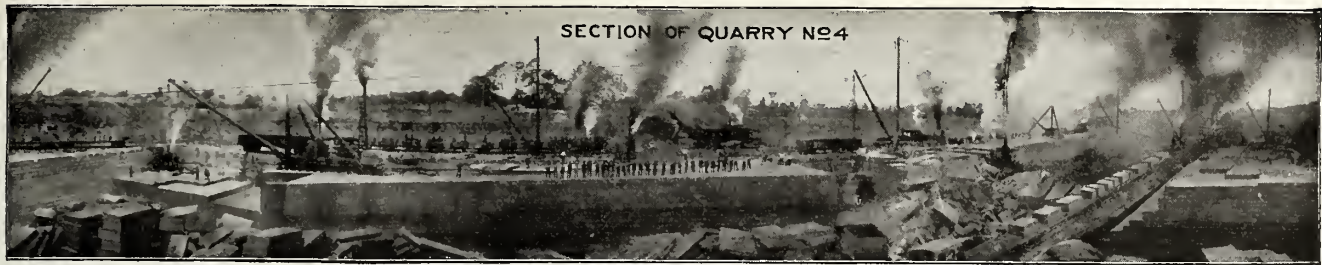
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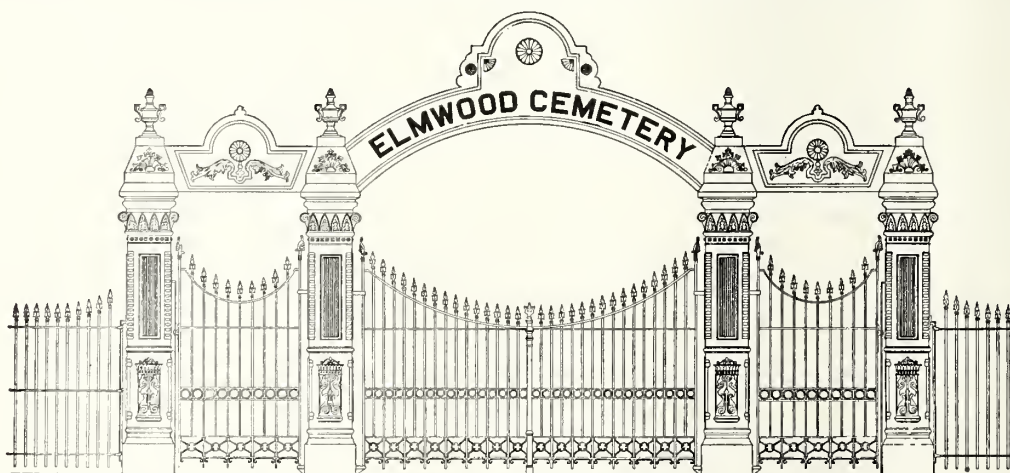
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Vol. XXV., No. 11

JANUARY, 1916

SPECIAL FEATURES IN THIS ISSUE

The Monument and Its Setting—Planning a County Park System—Boulder Vases
for Cemetery Lawn—Soil Building for Park and Cemetery Lawns—Trees for the
Semi-Arid West—Ridding the Lawn of Weeds—How to Construct a Water Garden



"SLEEPY HOLLOW" CEMETERY ENTRANCE, TARRYTOWN, N. Y. See Page 346.

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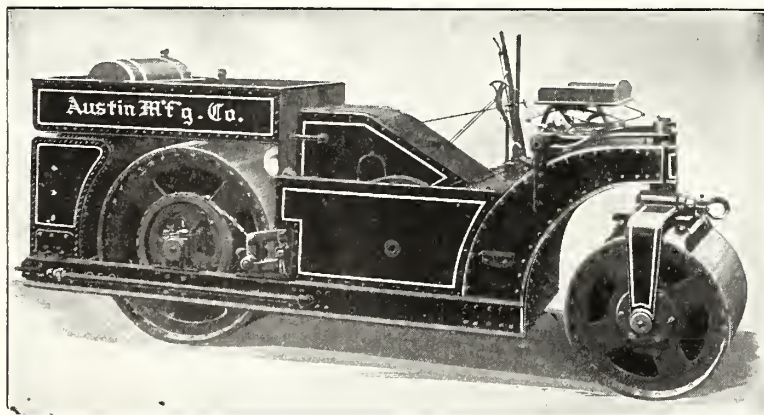
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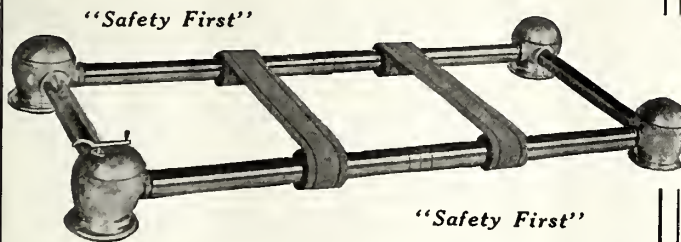
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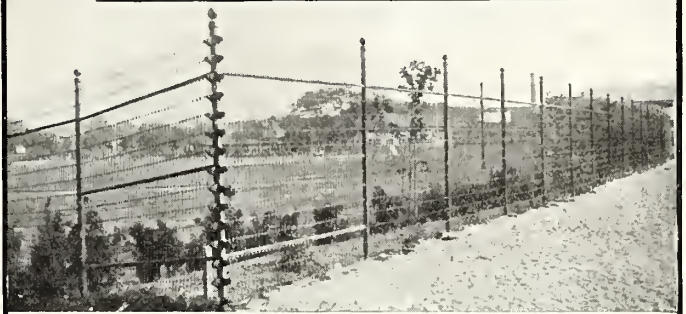
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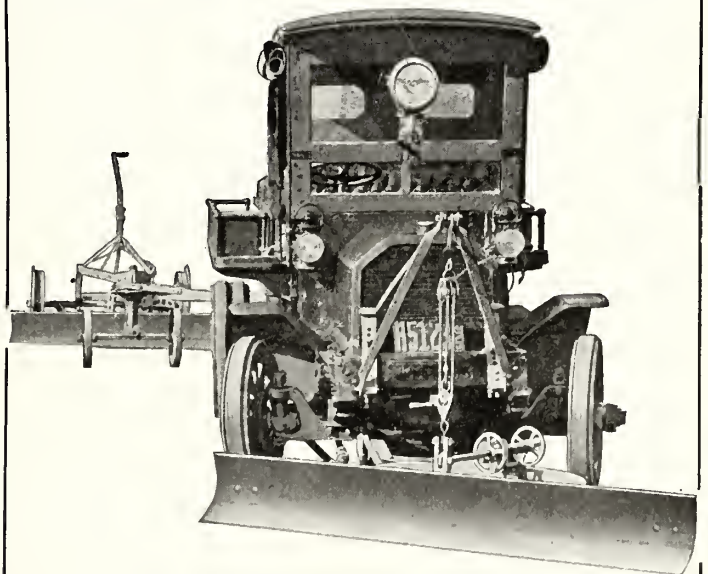
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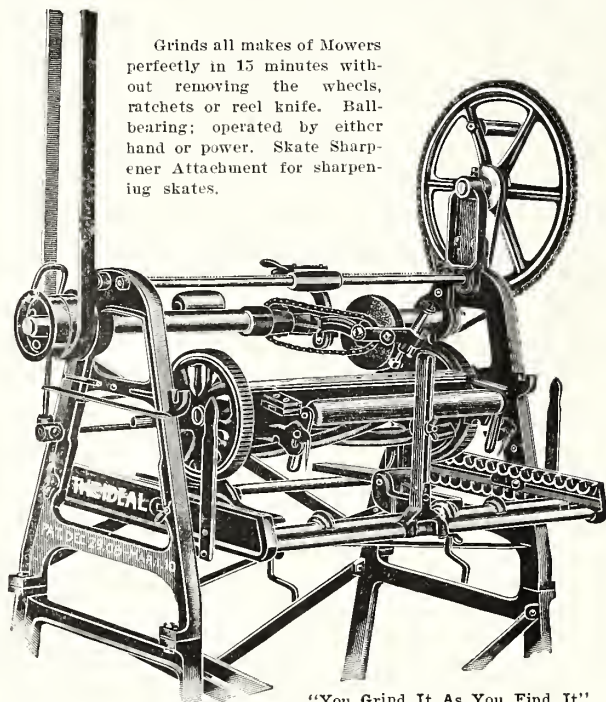
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JANUARY, 1916

EDITORIAL

VOL. XXV No. 11

Landscape Art in the Cemetery Lot

Some examples of fine monuments well placed, illustrated on another page in this issue, show encouraging evidence that there is some progress being made in our cemeteries toward that ideal condition of cemetery art in which every monument should be an original work of art with a landscape setting especially planned to set it off to best advantage. To get the best possible development of cemetery and monumetal art, the lot and the monument should be selected to harmonize and should be developed together. The monument designer and the landscape architect should work hand in hand. The designer should study the lot and build a monument suitable to its surroundings, and the landscape architect should be called into consultation, so that lot and

monument might form a harmonious landscape picture. In this way only can the ultimate ideals of cemetery art be attained.

Great public monuments, homes and public buildings are planned in this way. A cemetery lot is just as much of a problem in artistic development as a monument or a house. Progress in cemetery art is necessarily slow, and a casual glance into nearly any cemetery would lead one to believe that the attainment of this artistic development of the individual cemetery lot is a long way in the future, but the examples illustrated in this issue show that this ideal condition not only can be approximately realized, but actually has been in a great number of instances. Cemetery art is making progress, and we are glad to present some concrete evidence to this effect.

Common Sense Labels on Park Trees

Under the above interesting title, Mr. J. J. Levison has some practical and interesting comments to make in a recent issue of "American Forestry," from which we quote as follows: "Years ago requests began to come to the Brooklyn Park Department's office regarding the labeling of trees in the public parks. We then endeavored to comply with the evident public demand for instruction of the 'he who runs may read' variety. At that time the department manufactured some labels by stamping lead plates and attached them to park trees with generous impartiality in an attempt to cover all extra species as well as native ones with useful as well as ornamental information. In many parks this system of labeling the extra species burdened the busy public with too many names and details, requiring for the average pedestrian the use of a pocket dictionary and not assisting him one whit in the knowledge of that one particular tree which adorned his own back yard. We therefore had to devise a new label which would

not immediately become lost, strayed or stolen because of its lead valuation, and a quantity of real, practical knowledge was posted in the parks for general dissemination. The system which has now been adopted by the department differs from that of the botanical gardens in that it confines itself to 100 of the most common trees—the 100 which everyone ought to know. The label is a simple, enameled label, brief in context, thoroughly legible and without the special information usually put on labels informing the beholder of the tree's family, locality and other details. The nomenclature used is the latest and dates on best authorities. Only the common and botanical names of the tree appear upon the labels. Following our custom of dwelling upon the special characteristics by which almost every tree may be recognized at all seasons of the year, rather than by less permanent features, the trees were labeled in winter time and identification based upon these permanent characteristics and not upon leaves. Park authorities always find that the public takes a real interest in the matter."

Editorial Notes

The report of the National Forest Reservation Commission for the fiscal year 1915 has just been submitted to Congress by the president of the commission, Secretary of War Garrison. It shows that the commission has to date approved the purchase of 1,317,000 acres in the mountains of the East, out of a proposed total of some 6,000,000 acres. The purchases total 256,000 acres in New Hampshire, 294,000 acres in Virginia, 108,000 acres in West Virginia, 267,000 in Tennessee, 269,000 in North Carolina, 23,000 in South Carolina, and 96,000 in Georgia.

Dr. L. H. Pennington, forest pathologist of the New York State College of Forestry at Syracuse, has just found the chestnut tree blight in a chestnut grove at Sand Ridge, not far from Phoenix. This is the first report of an occurrence of the blight in this section of New York state. The presence of the blight in Oswego County indicates that the chestnut trees in all parts of the state will sooner or later be attacked. The occurrence of the blight at Sand Ridge is in the form of a spot infection where but a single tree is found to be infected. The tree in this instance was already completely girdled and killed and the fungi in fruiting condition. Other trees may therefore have been infected before this one was discovered and removed. If these spot infections can be discovered in time and the diseased trees removed and destroyed at

once, the general spread of the disease may be retarded and the life of chestnut groves prolonged several years in this part of the state.

"Iowa people were never before so anxious for help in establishing and developing specialized lines of agriculture like dairying, fruit growing, poultry raising and vegetable gardening," says Director R. K. Bliss, of the agricultural extension department at Iowa State College, at Ames, Ia. "There has been such demand for short courses on these subjects that we are starting a new course to deal with all four, and one more, landscape gardening. The interest in the beautification of communities, parks, cemeteries and private grounds is large, and that is why the last subject is included."

As a result of the Insecticide Act of 1910, farming communities in particular are now receiving a much higher grade of insecticides and fungicides than formerly, according to the annual report of the Insecticide and Fungicide Board, just issued by the United States Department of Agriculture. The improvement in the quality of these articles, says the report, encourages their use by farmers and is of great assistance in combating plant diseases and insect pests.



THE MONUMENT AND ITS SETTING

WINTER VIEW OF RUDD LOT, MT. GREENWOOD CEMETERY.

In the ideal condition of cemetery art, every monument would be designed for its own particular lot, and every lot selected to give proper setting to the monument. In other words, the monument and the lot would be selected at the same time. The lot owner should have in mind the style and size of monument when the lot is bought and should select a lot that would afford a proper setting for the monument. Where the lot has already been purchased from the ground available, the monument builder and his designer should study the lot and its surroundings and design a memorial that would harmonize with its setting. To get the best possible effect the landscape architect should be called into consultation and the planting, grading and improve-

ment of the lot carefully planned, so that lot, monument and planting should be a harmonious, unified composition. In this way only can the ultimate ideals of cemetery art be attained.

Great public monuments are planned in just this way; beautiful homes and public buildings are planned in this way. A cemetery lot and its monument is just as much of a problem in artistic development as a public monument or a house. In practically all public monuments of importance a sculptor works out the sculpture in collaboration with an architect who develops the architectural features and a landscape architect who plans the setting. A public monument is never designed without a first-hand study of the site on which it is to stand; all

its immediate surroundings are taken into consideration, and it is now quite a common practice for a full-sized temporary model to be built on the site where the work is to stand before the finished monument is built, so that the final effect may be judged exactly. Lorado Taft and his corps of assistants are now at work in Chicago on a temporary model of his elaborate "Fountain of Time" that is to be executed and set up in its final location at a cost of over \$50,000 even before the contract for the work is given. The effect of this model will determine whether the work shall be built in permanent form.

The problem of harmonizing the cemetery monument with its surroundings is perhaps more difficult. The lot owner must select the lot that is within his means and that is available in his cemetery, and he cannot control the development of the surrounding lots that may spoil the effect of his monument and his planting plans. But if he exercises care in the selection of his lot and his monument; has the proper designing service in the making of his monument; the proper landscape service in improving the lot, and exercises the same care and intelligence he would use in selecting a house, he may hope to secure the best results with the means at his command.

This ideal of having the monument and its surroundings in carefully studied harmony is not by any means a dream, for there are numbers of instances where it has been realized to a remarkable degree.

Along the main avenues of the newer sections of Graceland Cemetery, Chicago,



RUDD FAMILY LOT, MT. GREENWOOD CEMETERY, CHICAGO.



CLOSE VIEW OF RUDD MONUMENT.



CLOSE VIEW OF PORTER MONUMENT.



PORTER LOT, GRACELAND CEMETERY, CHICAGO.

practically every lot facing the roadways has been individually planted and graded to set off the monument, to screen out the background or to secure a definite landscape effect. A walk down these avenues will show a skill in development of cemetery landscape pictures and in the setting of monuments that is as fine as the effects secured in the planning of homes on any of our fine residence thoroughfares. Mr. O. C. Simonds, the landscape architect of this cemetery, has been working for years toward the development of the ideal conditions of cemetery art suggested above, and the results are apparent even to the casual observer.

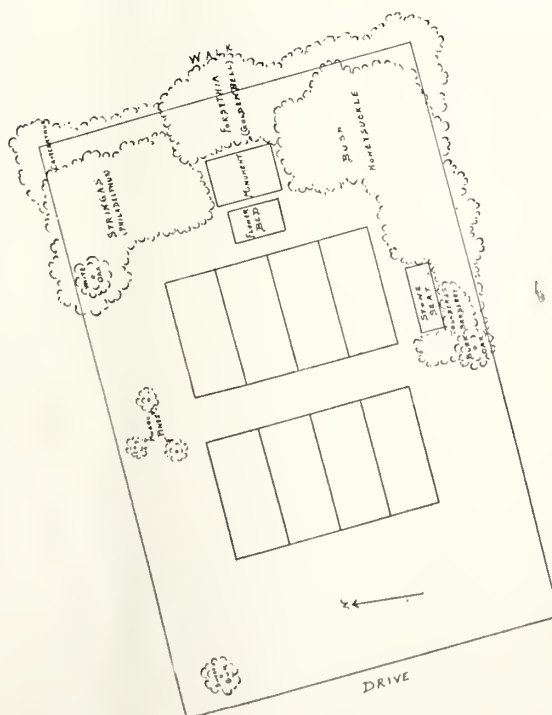
One of the finest specimens of the combination of landscape and monumental art in a cemetery lot, and one of the finest of recent monuments, is to be seen in the illustrations of the Porter monument and its surroundings in Graceland. The monument is a massive classic tablet of imposing size and beautiful lines. It was designed by Architect Charles A. Platt, of New York, and executed in hone-finished Stony Creek granite by Norcross Brothers Co., of Worcester, Mass. The entire monument above the bottom base is in one piece, and it was set by George Archer & Son, of Chicago. It is 16 feet by 11-6 at the base and the die weighs 33 tons. The treatment of the lot called for dignity and simplicity in the planting. While there were attractive lots and monuments in the vicinity, a great variety of small monuments could be seen in the background, as may be noted in one of our pictures, calling for a horticultural screen to be seen in their place.

monument was for a semicircular hedge back of the monument, and Phelps Wyman, landscape architect, of Minneapolis, was employed to prepare a platting plan. The thorn was chosen, since it would reach a height and thickness that would be in scale and be adequate as a screen and at the same time could be clipped. Yet, because its base is sometimes open, the barberry was planted close around it thickly. The hedge was almost the only ornament needed, yet since the trees close around the lot were some of them ragged, two elms were placed symmetrically at the back of the lot to form a finer edging for the tree mass.

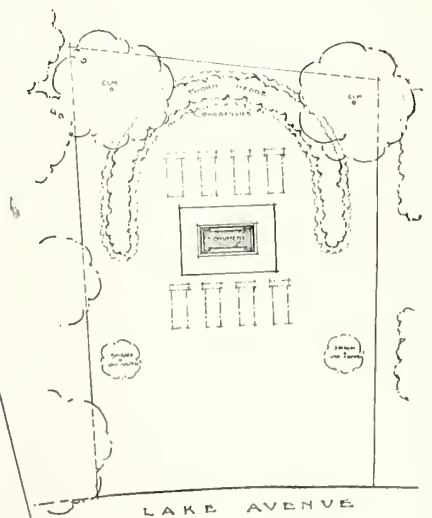
Similarly, since there was shrubbery planting in the vicinity, but not of an arrangement to accord with the severity of the monument, two large specimen *Spiraea Van Houttei* were placed at the sides of the lot.

A smooth lawn, beautifully graded, was the only other ornament, and leads naturally and impressively up to the monument from the drive.

Another example of a beautiful monument with a well-planned landscape setting is the Rudd monument in Mt. Greenwood Cemetery, Chicago, which stands on the family lot of W. N. Rudd, president of this cemetery. Mr. Rudd is developing along the main avenue near



PLANTING PLAN OF RUDD LOT.



PLANTING PLAN OF PORTER LOT.

A requirement of the architect of the

the imposing Masonic monument, illustrated in a recent issue, a series of lots in which he is endeavoring to secure the greatest possible harmony between monuments and surroundings and to secure variety of treatment of adjacent lots.

The Rudd monument is a very graceful and pleasing tablet form based on the lines of an ancient monument in Syria.

ment is a purple flowering heliotrope. This, of course, is tender and is replanted each year. The shrubs at the left of the monument are Philadelphus, at the right are Forsythias, and in front of these, at the right and around the tree, are Thunberg's barberries. Back of the large shrubs and tapering off the right, not shown in the picture, are some

This is one of the most refined and graceful types of the exedra form of monumental architecture to be seen in any cemetery, and the richly planted lot sets it off to the fullest degree. The conifers and low-growing trees immediately back of the monument harmonize with the architecture of the memorial and the smaller shrubs in front have



MASSIVE CROSS MONUMENT AND ITS SETTING.



BEAUTIFUL EXEDRA, WELL PLACED.

This monument, in combination with the granite seat and low headstones and with the careful planting of the shrubbery, makes this lot one of the most effective examples of memorial art to be found in Chicago. It will be noted that the treatment of the name and carving harmonize unusually well. The monument is of Barre granite and was executed by Chas. G. Blake & Co., of Chicago.

The lot is planted from a plan made by A. R. Gross, superintendent of the cemetery. At the left foreground shown in one of the pictures are three dwarf pines. The two large trees flanking the monument are white oaks. The grave at the left is planted with English ivy and the little bed in front of the monu-

Calycanthus. The stone seat is surrounded, except on the front side, by Japanese barberries. The general effect of the shrubbery planting is that of a part circle, the monument being set in the middle of the concave side, about four feet from the back of the lot, which is a deep one—about forty feet deep. The result is a green background and setting through the summer and a very good setting even during the winter months, as may be noted in our little illustration, which was taken in the winter.

It would be difficult to find a more beautiful setting for a beautiful monument than is seen in our picture of the Wittman memorial, erected in Philadelphia by E. A. Carroll & Co., of that city.

been placed to soften the lines of the corners and blend the structure into the lawn. The tall trees in the background complete a finished landscape picture. The monument is of Westerly granite, 12-0x6-6 at the base and 5-6 high.

Quite a different style of monument and a different kind of landscape setting may be seen in our illustration of the imposing Barre granite cross erected in Kankakee, Ill., by Chas. G. Blake & Co., of Chicago. The cross stands about 32 feet high and is embellished with an interesting type of floral carving at the base. The closely planted background of barberry, cut-leaved sumach and taller shrubs brings out in strong contrast the lower part of the monument and leaves the upper part in relief against the sky.

PLANNING A COUNTY PARKWAY SYSTEM

*From a Report by Olmsted Brothers, Landscape Architects,
on a Proposed Parkway System for Essex County, N. J.*

From the more limited point of view of those interested in developing the parks and reservations of Essex County, there appears to be urgent need of broad, dignified parkway connections between, and approaches to, the larger parks and reservations. The extensive use of the automobile has evidently greatly contributed to the need of parkways, since it enables those who use them for pleasure to easily and pleasurably cover three or four times the distance that is possible in a given time with the ordinary family horse. In an automobile, vis-

itors are now enabled to make the complete circuit of Branch Brook Park or Weequahic Park in a few minutes, after which they are compelled to go around again or else to take to ordinary city streets and country roads. Both leave something to be desired as regards pavement and safety from accidents to children, collisions, etc., and the aspect of the city streets is almost invariably more disagreeable than pleasing.

What those interested in parks want now are broad, shady parkways, with widenings and pleasing features in them and varied

and attractive private places along them, and command of occasional picturesque bits of local scenery and of distant views.

More specifically, what all interested would doubtless agree is now much needed is a picturesque circuit parkway from the north end of Branch Brook Park, extending through the northern, and for the most part still charming open parts of the county, to the crest of Orange Mountain, as near the north boundary of the county as practicable, and thence southwesterly on the crest of the mountain to and through Eagle

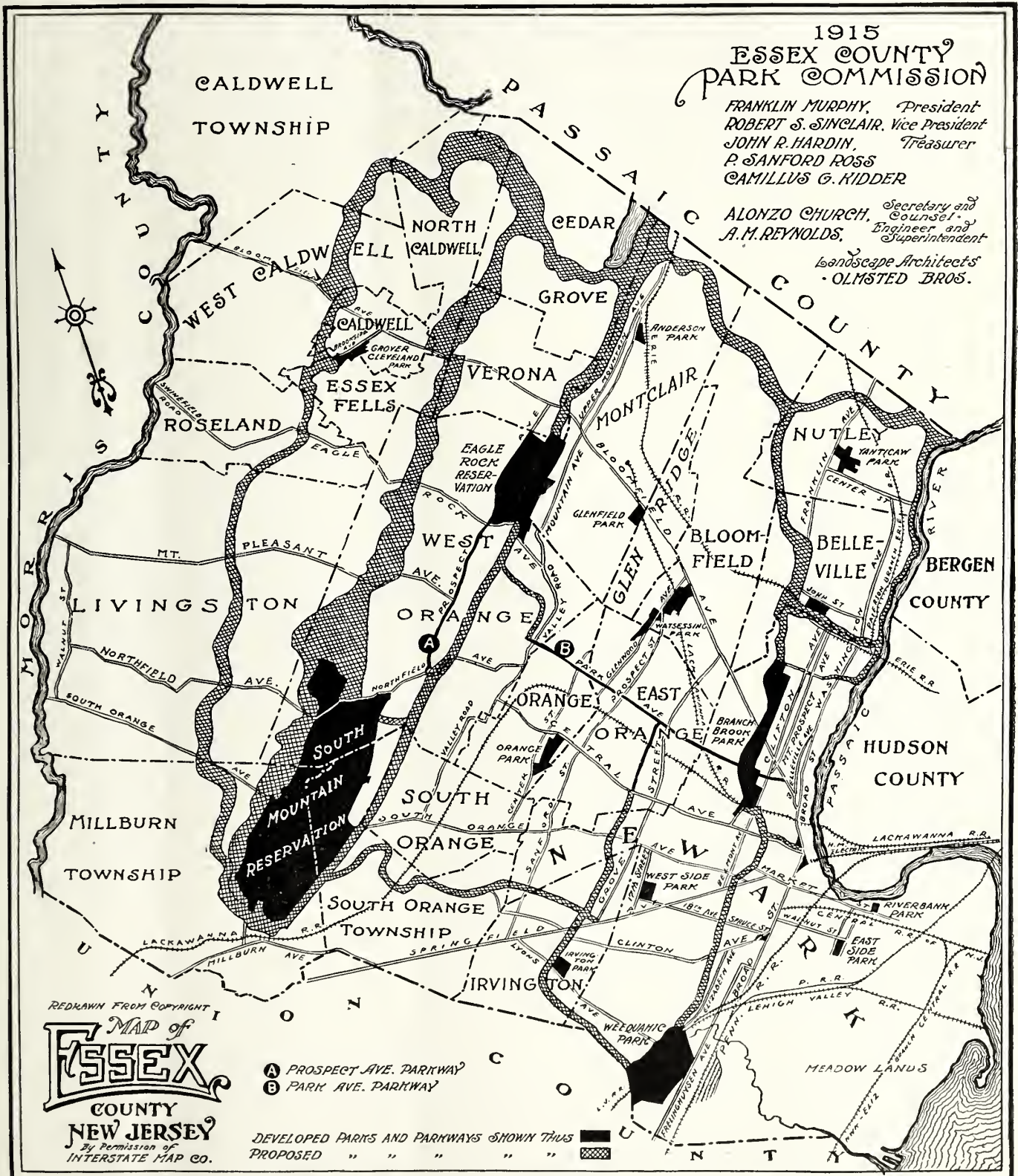
Rock Reservation and thence, still on the crest, to and through South Mountain Reservation and from the south end of the mountain in that reservation, across the southern part of the county to the south

now only possible to utilize existing streets, with such minor improvements as may be feasible from time to time without undue expense.

This hastily sketched outline, it may

complex project intelligently, it will be necessary to go more into detail.

For convenience the proposed parkway from the north end of Branch Brook Park to the proposed Crest Parkway on Orange



end of Weequahic Park. Clearly some connection between the north end of Weequahic Park and the south end of Branch Brook Park is needed to complete the circuit of the county, but considering the density of the population there and the consequent enormous cost of a wide parkway, it would probably be concluded that it is

easily be surmised, will involve an enormous expense and many difficulties, especially the opposition of those who dread increase of taxes and assessments more than they desire improvements, and the active antagonism of some of those whose residence properties would be interfered with. In order to discuss such a vast and

Mountain west of Montclair Heights will be called Northland Parkway, as indicating that it is in the north part of the county.

North of Branch Brook Park to Second River and from the Morris Canal eastward to Second street the land has been subdivided, but is almost devoid of houses,

and there are scarcely any street improvements. The land is flat to gently undulating, with a general slope westward and northward down to the canal and to Second River. Most of it is cleared, and part of this is occupied by golf links, but the north part is heavily wooded. The Orange branch of the Erie Railroad crosses this tract of land diagonally at about its middle.

There are various feasible routes for a parkway from Branch Brook Park to the Second River near Soho station, so that the effect of the parkway upon land damages and betterments and the wishes of the land owners may well have a good deal of weight in determining the exact location and outlines of the parkway. It is clear that to run the parkway about through the middle of the tract would benefit more land than to run it along the canal, where the cost for land taking would doubtless be less. It might be worth while, however, if the parkway is run nearly through the middle, to take all the land between it and the canal for park and golf. A border plantation along the canal would in time fairly well screen the cheap improvements which may occupy the land west of the canal. The parkway should cross under or over the Orange Branch Railroad either by a subway or by a bridge. A bridge will be required to carry the parkway across Second River to a subway under the Greenwood Lake Division of the Erie Railroad, just north of the river. The river here is in a fairly narrow ravine about 35 to 40 feet below the general level of the land and the railroad. Mill street can well be diverted so as to pass under the railroad, which could be on a temporary steel trestle, to be eventually replaced by a concrete viaduct.

It would be a great benefit to the final appearance of this parkway if the lots fronting on it could be restricted against being narrower than 100 feet and against having more than one house for one family upon each lot. This would make sales slower, but in the long run such lots would be in demand for houses above the average in cost and appearance.

After passing under the Greenwood Lake Branch of the Erie Railroad the parkway will naturally occupy the swampy valley branch of Second River and swing over the divide north of Essex County Isolation Hospital down to Third River at Joralemon street.

From this point a very pleasing and picturesque parkway could be developed, with attractive park widenings to include groves, mill ponds and meadows through Bloomfield to Brookdale, but for financial considerations it seems advisable at first, at any rate, to extend the parkway by a nearly direct line through the woods in the east part of Glendale Cemetery and over the hill east of Morris Canal at Center street, in the western part of Nutley

Township, and thence down to Brookdale.

From Brookdale to the proposed Crest Parkway on Orange Mountain west of Montclair Heights the parkway may well follow the brook valley, provided an ample width of land is taken to secure good elevation for residence frontage.

This over-the-hill parkway from Joralemon street to Brookdale would have the landscape advantage of the views from the hill, the top of which is 240 feet above the sea level and about 100 feet above Third River, southwest of it, and there might well be a park extending from the top of this hill to the west side of the mill pond.

Obviously the most economical and efficient system of rapid transit for the county would require all the railroads to electrify their roads as soon as practicable and to unite in the carrying out of a unified or harmonious scheme wherever required to do so by a Rapid Transit Commission. The cheapest and best way to run an electric rapid transit railway from the northern part of Essex County into New York would be to reconstruct the Greenwood Lake Division of the Erie Railroad, from Soho station to the Arlington tunnel, in such a way as to eliminate all grade crossings and to do away with the grade crossing east of Arlington station and to connect with both the Hudson and Manhattan tube system of the Hudson River tunnel of the Pennsylvania Railroad by suitable connections on the Hackensack marshes, until such time as those tunnels under the Hudson River reach the limit of their capacity and additional tunnels are provided.

Of course, such partial merging of the rights and properties of different railroad corporations for a purpose not originally anticipated will be difficult, perhaps impossible, to arrange. But there should be no serious difficulty, aside from the cost of construction, in extending this proposed transit electric railway on the Erie right-of-way into the Erie terminal, and it could there be connected with the Hudson and Manhattan tube system whenever the electrification of the Greenwood Lake, Orange and Paterson branches should make it worth while.

It would be a poor system of parkways which failed to take advantage of the principal topographic and landscape features in or near a city. Essex County is fortunate in having the three kinds of scenery—the salt bay and broad salt marshes, the Passaic River and other rivers and brooks and Orange Mountain. It is at present impracticable to take a parkway along or even to the bay; Passaic River bounds the county and cannot wisely be availed of until arrangements have been made with adjoining counties; but Orange Mountain presents the most magnificent opportunity, with the exception of the Palisades of the Hudson, for a high, view-commanding parkway to

be found near a large population in the Atlantic states. This must be regarded as the most essential part not only of a circuit parkway, but of any sort of system of parkway. It will be difficult of accomplishment, but it will be worth to the county as a whole so much more than any other parkway that it should unquestionably be the one project upon which all should unite.

There is one extremely fortunate peculiarity of this Crest Parkway project, namely, that if the whole would cost too much, any portion of it, no matter how isolated or how small, will be worth all it will cost. Even if never utilized as a part of a circuit parkway, it will always be of the greatest value and attractiveness as a picturesque place from which to enjoy the wonderful views as well as for rest and refreshment.

Near Eagle Rock Reservation there is a large quarry in active operation. The destruction of the natural appearance of the weather-beaten cliffs and tree-clad rocky slope has gone so far here that it will make comparatively little difference if the quarrying is permitted to continue, as a measure of economy, for a few years longer, only it ought to be directed in such a way as not to unduly interfere with a good line for the Crest Parkway. An agreement might even be arranged for directing the quarrying in such a way as to help instead of hinder a carefully studied plan for the necessarily somewhat complicated junctions of pleasure and traffic roads and electric railway which must take place in or adjoining this quarry.

It is to be presumed that it may prove desirable, eventually, to have a wide promenade on the outer edge of the cliff, probably supported in most places by a rustic rubble stone retaining wall, and between this wide walk and the driveway to have a strip of turf of varying width, or low planting, with occasional trees, and that back of this would be a wide driveway, and back of this a parking strip varying in width, then a driveway for access to houses, and then the sidewalk with planting strip for trees. It is not to be supposed that the inner driveway would be graded and paved for a good many years, but it would be well worth while to restrict the land to such width as would be required for this drive against building or subdivision, because, as the population grows, the time will come when it will be decidedly desirable.

Maplewood Parkway, another section of the proposed Circuit Parkway, would begin at a suitable point on the crest of Orange Mountain east of Washington Rock Outlook back of Wyoming, and slanting northeasterly down the bluff and steep hillside might cross Ridgewood road near Cedar lane. Bending in a half circle at this point, it might follow the little grassy valley for a space and then curve up on to the little hill between Woodland avenue and Maple-

wood avenue. By taking advantage of this elevation, it would be possible at some future time to carry the parkway across the railroad by an overhead bridge at a point south of where Jefferson avenue now passes under the railroad. The parkway could then descend to Valley street, or, what would be better, it could continue across that street on a viaduct and descend on a fill to Kensington terrace. Meanwhile the present crossing of Jefferson street under the railroad can be used. This section of the proposed Circuit Parkway may therefore be considered as ending at Valley street.

The Hilton Parkway section of the proposed Circuit Parkway would begin at Valley street, near Jefferson street, and extend to Irvington Park.

The Clinton Parkway section of the proposed Circuit Parkway would extend from

Irvington Park to the southwestern corner of Weequahic Park. It might follow Lyons avenue for a space, then turn south to Chancellor avenue and follow that for a space, then diverge to the south and follow the county boundary to the park entrance at Upper Elizabeth avenue.

Aside from its value as a parkway it would be worth as a fire guard a large part of what it would cost for land damages to lay out a wide parkway consisting of two streets and the blocks between, connecting Weequahic Park with Branch Brook Park, a distance of about $3\frac{1}{2}$ miles.

One of the important considerations in planning a city, permitted to be built of combustible materials, is to divide it into sections by water or strips of unbuilt-over land. The Passaic River affords such a guard against the spread of fire and conflagrations. As the city grows, the value as

fire guards of both Weequahic Park and Branch Brook Park will increase and, without the proposed wide parkway connecting them, the lack of a fire guard west of the business center of the city will become more and more lamentable.

Various other connecting or approach parkways, and even parkways whose chief benefit would be local, have been suggested and urged and some parkways, in addition to the main circuit route above indicated, unquestionably would be desirable, both for the benefit of the county as a whole and for that of the localities immediately concerned. These possible parkways should receive careful consideration. The most essential portions of some of them should be secured with such funds as may become available in the near future, leaving the less essential though desirable portions for future accomplishment.

THE CONSTRUCTION OF A WATER GARDEN

From Bulletin of Missouri Botanical Garden, St. Louis, Mo.

To the uninitiated the cultivation of the water lily seems rather difficult. These plants bear magnificent flowers, both as to size and color, and rather naturally give the impression that it requires long experience and considerable outlay of money to grow them. It is the purpose of this article to give some idea of what has been done toward the growing of water lilies in the Garden this summer, and to encourage, if possible, the construction of similar gardens on a smaller scale in private places.

Location.—Up to the present year the area in the Garden devoted to the growing of water plants consisted of six small pools. Three of these, formerly located to the northwest of the main entrance, were wrecked this spring to make room for improvements. The other three, just south of the Linnean house, still remain. One of these, the central one, is of concrete; the other two, one to the east and one to the west, are puddled or clay pools. The latter, on account of their peculiar form, are known as the "Horseshoe Ponds." The west horseshoe pond is used for growing the hardy water lilies, while the east one is reserved mostly for the growing of seedling water lilies. The concrete or Victoria pond, so called because in it are grown the large-leaved Royal or Victoria water lilies, is artificially heated in order to provide a sufficiently high temperature for these tropical plants during the cooler months of spring. A portion of the old parterre was this year converted into a water garden. This pool, rectangular in shape, is 70 by 140 feet, and is the largest single pool in St. Louis given over to the growing of water lilies. It is this pool that is known as the "Water Garden." To the south of this garden and extending along the

stream are four small pools, known respectively as pools one, two, three and four.

Construction.—Pools for the growing of water lilies may be made of either concrete or clay. Where the subsoil is clay, as is the case generally in this section of the country, the latter type of pool is much more cheaply constructed and has the additional advantage of appearing more natural. However, in cases where the subsoil is such that free drainage results, it sometimes becomes necessary to construct concrete pools. All the new pools made in the Garden this spring were built of clay. The clay subsoil in the Garden lies only a few feet below the surface, so that it was only necessary to dig through the surface loam to uncover it. When the clay itself was reached, a basin with vertical sides was dug out two feet deep. After the clay had been removed, the basin was refilled with one foot of well-mixed soil containing a large percentage of cow manure. Finally, water was allowed to run in until one foot of water covered the foot of good soil. A mistake is often made in thinking that lilies need nothing but water for their growth, but a soil layer for properly feeding the plants is just as important. As the plants become older the depth of the water can be gradually increased by adjusting the overflow. Pools constructed in solid clay, as above, practically never leak.

Where a solid clay subsoil is not available, a process of puddling is employed. This consists, essentially, of plastering the sides of the excavation with a layer of clay—the addition of water making easy the application of the clay. Pools so constructed need very little attention and leak but little more than solid clay pools, and have an advantage over concrete in that

they can be enlarged or remodeled at any time without much expense.

The construction of concrete tanks usually requires the assistance of a mechanic and does not lend itself well to natural surroundings. The formal concrete pool should not be used except in conjunction with other formal surroundings.

Water Supply.—After the initial filling of the pools, it requires but a small stream to keep the water fresh and clean. It is necessary, of course, to prevent scum from accumulating on the surface of the water, as well as to avoid providing a place for the breeding of mosquitoes. If a half-inch stream of water be allowed to run slowly into the pool, the slight overflow will usually carry off any scum which might accumulate. If unsightly scum growths appear, it may be necessary to add copper sulphate in quantity sufficient to poison the plants making up the scum, and yet too dilute to harm the lilies. Fish are usually introduced into a water garden to keep it free from mosquito larvæ, although it should be remembered that if the pool is in an exposed place, subject to the action of the wind, there is little danger of its becoming a nuisance, since mosquitoes will not breed where the water is rippling. The water which supplies the garden pools is furnished by a three-quarter inch pipe, running very slowly. This is sufficient to keep scum from accumulating on the surface and supplies enough water to make up for the loss of evaporation.

Drainage.—Water garden pools are usually located in rather low places, and hence, in time of rainy weather, receive the drainage from the adjoining slopes. The small pipe which takes care of the normal over-

flow will not carry off this storm water and provision must be made for the latter. If a large tile is so laid that its bottom is at the same time level as the normal surface of the water, this surplus will usually be taken care of, although where the drained area is very large, more tiles may be necessary. A few heavy rains will soon show how much extra drainage is necessary.

Classification of Lilies.—Water lilies may be roughly divided into two classes—tender and hardy varieties. The former may be again divided into those requiring artificial heat and those that do not. The hardy lilies, of course, are those capable of withstanding the winter without protection. Practically the only water lilies that require

artificial heat are the large-leaved Royal or Victoria lilies. Even these will flower and produce fairly large leaves without additional heat, but the results are so much better when artificial heat is added in cool weather, that this method of growing them is much practiced. Heat is applied only when the normal temperature of the water falls below 80 degrees Fahrenheit.

Propagation.—Lilies are raised from seed germinated during the winter in tanks under glass, and the resulting seedlings are transplanted to the outdoor ponds late in the spring. Or, plants may be taken up in the fall and kept over winter in tubs protected from frost. Once the hardy lilies are planted out they require but very little subsequent attention.

Flowering Periods.—The lilies are peculiar as regards their flowering periods, and are generally characterized as "day bloomers" and "night bloomers." Some of the largest and most brilliantly flowering forms belong to the latter class, opening in the late afternoon or evening and not closing until 9 or 10 o'clock the next morning. The day bloomers usually open in the morning at about the time the night bloomers close, being at their best from 11 to 12 o'clock. The same lily will bloom for several days, opening and closing each day, but fading and drooping more and more until finally its head sinks below the surface of the water, where the seeds are formed. The colors are usually brightest when the flowers first open.

RIDDING THE LAWN OF WEEDS

By George E. Stone in Report of Massachusetts Agricultural Experiment Station.

In recent years a great deal has been done along the lines of weed extermination, and many different methods have been experimented with and some of them adopted. There are several proprietary articles and mechanical devices on the market purporting to solve some of the phases of the weed question, but most of them are rather expensive when used on a large scale. When one needs only a small amount of weedicide, however, it is better to buy the easily procured proprietary article than to bother with the crude material, which is often hard to obtain.

Sulfate of iron has proved valuable in the West for the extermination of such tender plants as mustard and others when used as a spray in grain fields, and it can also be used for killing dandelions in lawns. It is inexpensive when bought in bulk, although the proprietary article, consisting of pulverized sulfate of iron mixed with nitrate of soda and sand and put out in expensive containers, is not so cheap. Arsenate of soda, which can be bought in bulk as a commercial article, and similar compounds are also used as weed killers.

Of the several mechanical devices for weed extermination, some are designed to pull up the weeds and others to kill them by injecting poisonous chemicals into the roots, while still others do the work by burning. Even electricity has been tried, but with rather unsatisfactory results, since considerable current is required to kill even small plants. Salt, copper sulfate, carbolic acid, nitrate of soda and many other materials have been used as weed killers, and undoubtedly in the future cheaper and more efficient methods will be found.

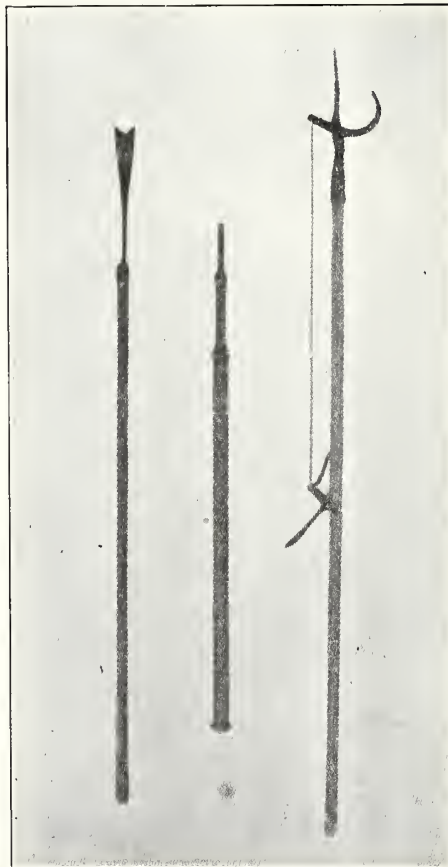
Arsenical compounds appear to be the most poisonous to weeds. Of these, arsenate or arsenate of soda is usually employed, and is especially valuable for destroying weeds in dirt walks, roads,

ditches and tennis courts and for killing poison ivy about trees, buildings, stone walls, etc. It is very poisonous to plants and lasting in its effects. One or two applications at the rate of 10 gallons of the solution per square rod (made up of 1 pound of the arsenate of soda to 5 or 10 gallons of water) will last for some years. This substance does not appear to leach

out of the soil to any extent; while many others used as weed killers either volatilize quickly or leach out through the soil, producing only a temporary effect. Arsenate of soda can be used to advantage also in treating 4 or 5 inches of a lawn close to the foundations of buildings, to save clipping by hand the tall grass which cannot be reached with a lawn mower.

The most satisfactory way to apply arsenate of soda is by means of a sprinkler with an attachment to direct the spray (Fig. 1). With this device it is possible to treat walks up to the very edge without injuring the grass in the least. A single drop of arsenate of soda will injure any vegetation it touches, so care must be used in handling it; therefore this little attachment shown in Fig. 1 is valuable for directing the liquid. Arsenate of soda should not be used too freely near the feeding roots of trees, but we have never noticed any injury from treating walks near shrubbery or even within a few feet of large trees.

To insure a heavy growth of grass and absence of weeds a lawn should have a good, deep foundation of rich soil, well supplied with organic matter and plant food. It is also important that the soil should possess the proper physical properties or texture in order to produce a good growth of grass, and it should have sufficient water-retaining capacity to enable the grass to endure drought. A soil of medium texture well provided with loam, with a water-retaining capacity of about 70 per cent, is much better than a coarse soil of less water-retaining capacity; for in seasons of drought the coarse soil will dry out very quickly and the grass will suffer, whereas the reverse is true of the fine soil. The weed proposition loses some of its importance if the lawn is well made, since a good growth of grass will crowd out the weeds. New lawns are more troubled with



TYPES OF WEED EXTERMINATORS.

At the right, home-made device for cutting lawn weeds; to the left, similar device. In the center is a device for injecting poisons into the roots of weeds.

weeds on this account. One of the worst weeds affecting new lawns is crab grass (*Digitaria humifusa*), but it lasts only a year or two, as a rule. It is much more troublesome on dry lawns, where the catch of grass is poor. Frequent close cutting of the grass in the fall is a good preventive, since the seed is not allowed to mature. Two of the plantains, *P. lanceolata* and *P. major*, are troublesome in lawns, more especially where the grass is thin. Cutting plantain at different distances from the roots with a special device has not always proved satisfactory, and our observations have shown that when cut in this way a large percentage of the plants renew their

tribution on lawns. In winter their seed spikes are often found protruding above the snow, and when the snow has a crust the seeds are easily carried long distances, and often land at certain points corresponding with the action of the wind.

Many other weeds, when cut below the surface, will not renew their growth. The device illustrated consists of an asparagus cutter inserted into a handle, and is a cheap, practical and easily used tool for cutting roots below the surface.

Frequent applications of fertilizer to lawns is of some service in exterminating weeds. For this reason we have devised a lawn fertilizer spreader, consisting of a holder mounted on rubber-tired wheels, with an opening three-fourths of an inch in width which can easily be opened or closed while operating the machine. The spreader is provided with a revolving cylinder which keeps the fertilizer pulverized and in motion. This device was designed to improve upon the clumsier method of hand spreading, and it will spread the fertilizer so evenly and thoroughly that every root can be reached. With its use more fertilizer may be required to completely cover the lawn, but a great deal is gained by the thorough application and even distribution. It is not designed to spread coarse manure, but may be used with pulverized sheep and cow manure and commercial fertilizers.

Besides using pulverized sheep or cow manure in the spring or fall, wood ashes, nitrate of soda, sulfate or muriate of potash may be applied. We have found it well to fertilize in late summer when the grass is losing its vigor, which keeps it growing and in good condition up to the end of the season, and also helps greatly to crowd out undesirable fall weeds.

Pulverized sheep and cow manure, while excellent for lawns on account of the large amount of organic matter which they contain, do, like other manures, possess a disadvantage in the undesirable weed seeds often found in them. Most of the pulverized manures come from the Chicago stock yards, and western seeds are likely to predominate in them. An analysis of pulverized sheep manure shows the following weed seeds in one pound:

TABLE II.

Showing Number and Kinds of Weed Seeds in One Pound of Pulverized Sheep Manure.

Kind of Seed	Number of Seeds
Ladies' thumb	580
Tumble weed	670
Sorrel	390
Timothy	1,000
Foxtail	400
Panicum and other species.....	820
Plantago lanceolata, etc.....	200
Total.....	4,060

The figures given in this table show the great number of seeds in pulverized sheep manure—4,060 to 1 pound, which would be equivalent to 406,000 seeds in a 100-pound bag. But this table represents only one analysis, although taken from a typical sample on the market. Some of the seeds named are of little account, while others, like *Plantago lanceolata* and certain *Panicums*, often prove noxious. One lawn with which we have experimented, and to which sheep manure was applied freely, became badly contaminated with *Plantago lanceolata*, which had never been noticed in the lawn before and must have come in with



FERTILIZER SPREADER FOR LAWNS.

growth. This appears to be true, also, of the dandelion.

The following table shows the results of cutting plantain stems. The experiments were made by A. J. Sullivan, a student assistant:

TABLE I.

Showing Results of Cutting Plantain Stems (*Plantago Major L.*)

Lot	Number of Plants Used	Method of Cutting Stems	Results: No. Growth	No. Growth
A	25	Very close to roots	17	8
B	25	1/8 in. from roots	16	9
C	25	1/8 to 1/4 in. from roots	20	5
D	25	1/4 in. from roots	15	10
E	25	1/8 in. from roots	20	5
—	—	—	—	—
	125		88	37

After being cut the plants were set out in boxes in good soil and under favorable conditions for growth. They were planted slightly below the surface of the soil to prevent the death of the cut surface. The results do not show much difference as regards distance of cutting from the roots, although those plants cut near the roots show a weak and more tardy response. Of the total number of plants cut, 88 started to produce new foliage and 37 failed to respond.

The stems of plantain are, as a rule, only about 3/4 or 1 inch in length, and if cut quite deep below the surface of the ground a considerable percentage could possibly be destroyed.

The effects of the prevailing winds on plantain seed are often shown in their dis-

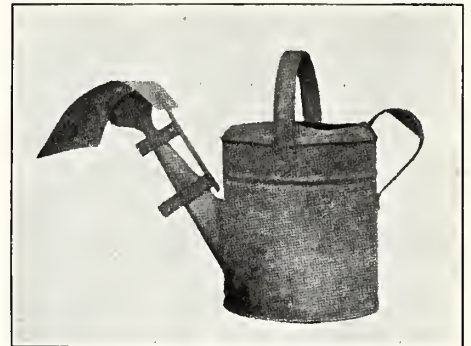
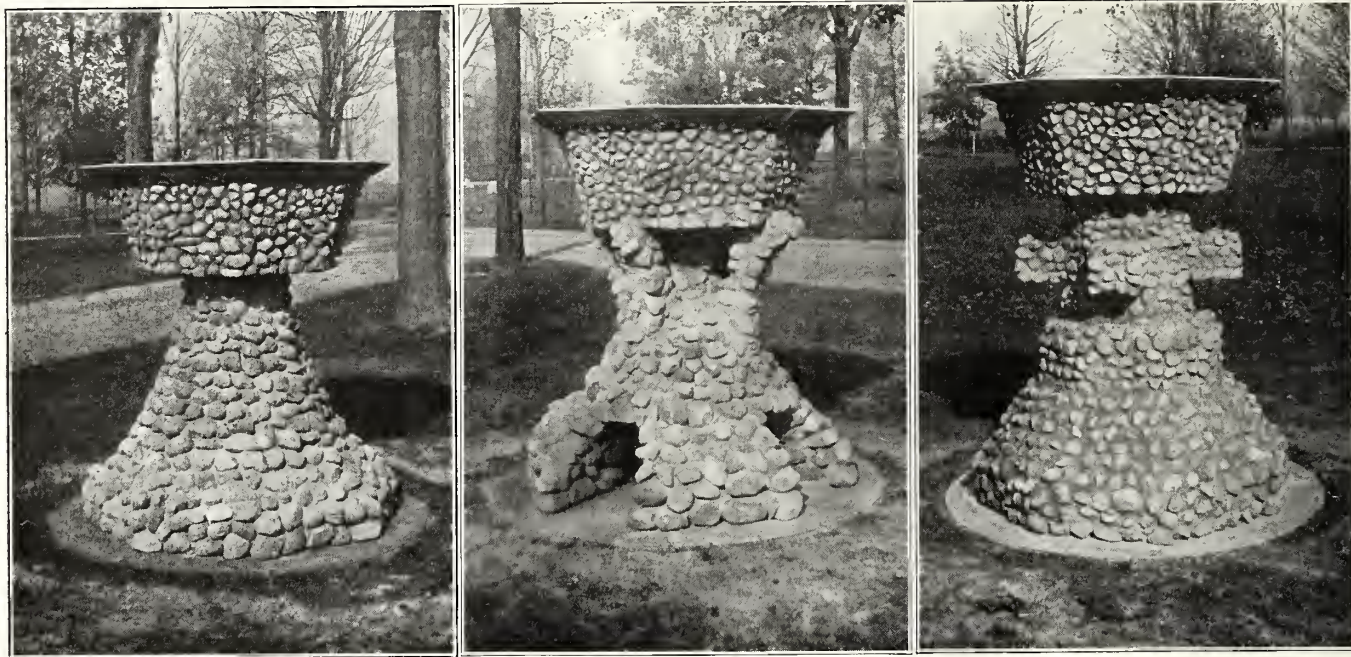


FIG. 1. WATERING CAN WITH DEVICE FOR APPLYING ARSENATE OF SODA.

the sheep manure. It was most abundant in the poorest part of the lawn. In another case where pulverized sheep manure was used plentifully a remarkable catch of a beautiful little lawn grass growing about 4 inches high and known as *Poa annua* was found. The seed of this grass cannot be had in the market, and yet it is one of the most desirable lawn grasses, thriving in the shade where other grasses will not. Whether the sheep manure contained the seed, or whether it merely furnished a suitable environment for its development, as does potash for clover, was not learned.

The large amount of organic matter contained in sheep manure makes it an excellent lawn fertilizer, although from the point of view of plant food contained it is more expensive than most chemical fertilizers. Still, we believe that no chemical fertilizer can take its place on lawns. The number of weed seeds it contains is its worst feature, but this might possibly be overcome by some system of sterilization. The application of steam would have a tendency to increase the ammonification and would be a troublesome process, but if the weed seeds could be killed by an application of formaldehyde and potassium permanganate it would be a practical method. Fumigation with this substance will kill onion seed very quickly, but whether it would have the same effect on weed seeds we do not know.

CONSTRUCTION OF BOULDER LAWN VASES



THREE STYLES OF BOULDER VASES USED IN RIVERSIDE CEMETERY, THREE RIVERS, MICH.

W. H. Sloan, superintendent of Riverside Cemetery, Three Rivers, Mich., has constructed several different types of boulder or cobblestone vases that form an interesting feature of that cemetery.

The vases vary in size from $3\frac{1}{2}$ to 4 feet in height and from 5 to $5\frac{1}{2}$ feet high, and the shapes and decorative outlines have

also been varied in the three vases illustrated here. They are all octagonal in general shape, and the difference in the color of the stones used gives considerable variety in color effects.

They were constructed by the use of wooden forms as in concrete work, and all stand on three-foot foundations.

In constructing the vases Mr. Sloan first

built a substantial foundation extending below frost level; above ground he placed the stones against a form and filled in with concrete consisting of equal parts of cement and screened gravel. The vases are drained by $1\frac{1}{4}$ -inch galvanized iron pipe from the bottom on an angle to the base at one side, or by making four small holes at the bottom of the vase through the sides.

POPULARIZING OUR NATIONAL PARKS

Secretary of the Interior Lane, in his forthcoming annual report, calls attention to the national parks as a valuable and undeveloped asset of the country. He says:

"The United States furnishes playgrounds to the people of this country which are, we may modestly state, without any rivals in the world. Just as the cities are seeing the wisdom of the necessity of open spaces for the children, so, with a very large view, the nation has been saving from its domain the rarest places of grandeur of the world.

"And this fact has been discovered by many only this year. Having an incentive in the expositions on the Pacific Coast, and Europe being closed, thousands have for the first time crossed the continent and seen one or more of the national parks. That such mountains and glaciers, lakes and canyons, forests and waterfalls were to be found in this country was a revelation to many, who had heard but had not believed. It would appear from the experience of this year that the real awakening as to the value of these parks has at last been realized, and that those who have hitherto found themselves enticed by the beauty of the Alps and the Rhine and the soft loveliness of the valleys of France

may find equal, if not more stimulating, satisfaction in the mountains, rivers and valleys which this government has set apart for them and for all others.

"It may reconcile those who think that money expended upon such luxuries is wasted—if any such there are—to be told that the sober-minded traffic men of the railroads estimate that this year more than a hundred million dollars usually spent in European travel was divided among the railroads, hotels, and their supporting enterprises in this country.

"During the year a new national park of distinction and unusual accessibility has come into existence. It crosses the Rockies in Colorado at a point of supreme magnificence; hence its title, the Rocky Mountain National Park. Through it, from north to south, winds the Continental Divide—the Snowy Range in name and fact. Two hundred lakes grace this rocky paradise, and bear and bighorn inhabit its fastnesses. It has an area of 350 square miles and lies only 70 miles from Denver. Many hotels lie at the feet of these mountains and three railroads skirt their sides.

"This is Colorado's second national park, the other being Mesa Verde, where this department, with the assistance of Dr. Jesse

Walter Fewkes, of the Smithsonian Institution, has uncovered during the last summer prehistoric ruins of unprecedented scientific interest.

"Oregon has but recently completed a great highway along the Columbia River. This should be connected by road with Mount Hood and a portion of the present forest reserve converted into a park. The limits of Sequoia Park, in California, the home of the great redwoods, should be so extended as to include the Kern River Canyon, a most practicable project today; but tomorrow may be too late, because of the lumber interests. The Grand Canyon is not yet part of the park system, although as part of a national forest it comes under the control of the Department of Agriculture.

"There is no reason why this nation should not make its public health and scenic domain as available to all its citizens as Switzerland and Italy make theirs. The aim is to open them thoroughly by road and trail and give access and accommodation to every degree of income. In this belief an effort has been made this year as never before to outfit the parks with new hotels which should make the visitor desire to linger rather than hasten on his journey.

One hotel was built on Lake McDermott, in Glacier Park; one is to be built immediately on the shoulder of Mount Rainier, in Paradise Valley, another in the valley of the Yosemite, with an annex high overhead on Glacier Point, while more modest chalets are to be dotted about in the obscurer spots to make accessible the rarer beauties of the inner Yosemite. For with the new Tioga road, which, through the generosity of Stephen T. Mather and a few others, the Government has acquired, there is to be revealed a new Yosemite, which only John Muir and others of similar bent have seen. This is a Yosemite far different from the quite incomparable valley. It is a land of forests, snow and glaciers. From Mount Lyell one looks, as from an island, upon a tumbled sea of snowy peaks. Its lakes, many of which have never been fished, are alive with trout. And through it foams the Tuolumne River, which in a

mile drops a mile, a water spectacle destined to world celebrity. Meeting obstructions in its slanting rush, the water now and again rises nearly perpendicularly, forming upright foaming arcs sometimes fifty feet in height. These 'water wheels,' a dozen or more in number, will be accessible next summer by a trail to be built when the snow melts in June.

"While as the years have passed we have been modestly developing the superb scenic possibilities of the Yellowstone, nature has made of it the largest and most populous game preserve in the Western Hemisphere. Its great size, its altitude, its vast wildernesses, its plentiful waters, its favorable conformation of rugged mountain and sheltered valley, and the nearly perfect protection afforded by the policy and the scientific care of the Government have made this park, since its inauguration in 1872, the natural and inevitable center of game

conservation for this nation. There is something of significance in this. It is the destiny of the national parks, if wisely controlled, to become the public laboratories of nature study for the nation. And from them specimens may be distributed to the city and state preserves, as is now being done with the elk of the Yellowstone, which are too abundant, and may be later with the antelope.

"If Congress will but make the funds available for the construction of roads over which automobiles may travel with safety (for all the parks are now open to motorists) and for trails to hunt out the hidden places of beauty and dignity, we may expect that year by year these parks will become a more precious possession of the people, holding them to the further discovery of America and making them still prouder of its resources, esthetic as well as material."

PLANTS SUITABLE FOR SALT WATER SHORES

*By Emil T. Mische, Superintendent of Parks, Portland, Ore.;
President American Association of Park Superintendents.*

Plants suited to endure without serious injury the effects of salt water on the foliage or in the soil in which they are growing are much more numerous than is often supposed. Flora of the localities where these conditions exist are among the best sources from which to select suitable candidates for use in similar situations. Chemical analysis of plants, indicating that the amount of salt (sodium chloride) contained in their tissue is large, does not necessarily prove that the plant is suited for growing in saline soils; it is sometimes merely an indication of the amount possible to be absorbed and yet enable the plant to live.

Geological formation, wind, protection and artificial changes are frequently very important, favoring or offering circumstances to be observed. Along the rock-bound shores of New England the soil is usually a thin layer over rock, but the shore is reasonably well protected by forests. Along the New Jersey coast the land is quite flat and sandy and in some localities where land is reclaimed by filling, the soil is sand for a depth of from 10 to 20 or more feet, held in place partly by masonry or by an easy slope covered with vegetation. Farther south, among the principal noteworthy features is that of the sands, where the Sabal Palmetto is native.

On flat land, rich in organic matter and from one to three or four feet above low water and subjected to tidal overflow of the land or even immersing of the plants the *Distichlis spicata* attains a height of from two to three or four feet and covers miles of meadow-land in broad areas, especially in protected indentations of the sea. It usually grows without the intermixture of other types.

On higher elevations the "salt meadow" type, where the soil is reasonably fertile, but at an elevation where it is only submerged during high tides, *Spartina juncea* is found inhabiting the land almost to the exclusion of every other sort. It grows from 6 to 18 inches in height. Several species of sedges (*Carex*) are adapted for use in saline soils. Among flowering sorts, *Statice latifolia*, *Phragmites communis* and *Solidago sempervirens* are conspicuous natives of the north Atlantic coast. Among small sub-shrubs are *Corema Conradii*, also *Ephedra distachya*, the latter not a native.

In brackish swamps *Hibiscus Moscheutos*, *Rosa blanda* and *Typha latifolia* are frequent. For areas several feet above mean high water, but subject to washings by spray, the following are excellent where lawn grasses are wanted: *Creeping Bent*, *Agrostis stolonifera*; *Seaside Bent*, *A. coarctata*; *Red Fescue*, *Festuca rubra*, and Korean lawn grass, *Zoysia pungens*.

Among vines there are *Hedera helix*, *Clematis flammula* and *C. vitalba*, *Lonicera Periclymenum*, *L. Japonica*, *Tecoma radicans*, *Lycium barbarum*, *Euonymus radicans*, *Ampelopsis quinquefolia*, and particularly *Periploca Græca*.

A rather large assortment of shrubs withstand the effects of salt water with immunity: *Rosa lucida*, *Prunus maritima*, *Sambucus racemosa*, *Viburnum dentatum*, *V. lantana*, *Cornus stolonifera*, *C. sanguinea* (the last three frequently have their foliage burned during the summer), *Hippophæ rhamnoides*, and to secure the best effect there should always be many female plants, *Baccharis halimifolia*, *Alnus glutinosa*, *Halimodendron argenteum*, *Eleagnus longipes*, *Diervilla grandiflora*, *Cytisus sco-*

parius, *Berberis vulgaris*, *Garrya elliptica*, *Ceanothus Americanus*, *Colutea Arborescens*, *Corylus Avellana*, *Pyrus arbutifolia*, *Shepherdia argentea*, *Spiræa Douglasii*, *Rhus glabra*, *Symphoricarpos racemosus*, *Viburnum opulus sterilis* and *Tamarix gallica*, *Ligustrum vulgare*, and particularly *L. ovalifolium*.

Among the more showy sorts are *Myrica Germanica*, *Philadelphus coronarius*, *Yucca filamentosa*, *Taxus baccata*, *Syringa vulgaris*, *S. persica*, *Spiræa japonica*, *Spartium junceum*, *Rosa rubiginosa*, especially *Rosa rugosa*, *R. spinosissima*, *Ribes sanguineum*, *Rhododendron Catawbiense*, *R. hybrids*, *Cotoneaster microphylla*, *Crataegus pyrocantha*, *Lavandula vera*, *Juniperus communis*, *Ilex aquifolium*, *Daphne cneorum*, *Hydrangea hortensis*, *Euonymus japonicus*, *Deutzia crenata*, *Diervilla rosea*, *Berberis aquifolium*, *Buxus sempervirens*, *B. Balearica*, *Chamæcyparis Lawsoniana*, *Pinus Mugho*, *Buddleia globosa* and *Yucca filamentosa*.

Under the most adverse conditions the following sorts of trees constitute those upon which the principal reliance may be placed: *Ailanthus glandulosa*, *Salix alba*, *Populus alba*, *Ulmus Americana*, *U. montana* and *Pinus sylvestris*. Others less adaptable but still good are: *Sassafras sassafras*, *Quercus bicolor*, *Q. macrocarpa*, *Carya alba*, *Liquidambar styraciflua*, *Picea alba*, *P. orientalis*, *Pinus austriaca*, *P. strobus*, *Plantanus orientalis*, *Pyrus baccata*, *P. aucuparia*, *P. communis*, *P. coronaria*, *P. floribunda*, *Populus nigra*, *P. Tremula*, *Betula alba*, *Fagus sylvatica*, *Fraxinus excelsior*, *Rhamnus cathartica*, *Thuya occidentalis*, *Nyssa sylvatica*, *Carpinus betulus* and *Laburnum vulgare*.

SOIL BUILDING FOR PARK AND CEMETERY LAWNS

From Bulletin on "Lawn Soils and Lawns," by Oswald Schreiner, J. J. Skinner, L. C. Corbett and F. L. Mulford, of U. S. Department of Agriculture.

The ideal soil for a lawn is available in but a few cases where it is desirable to establish a greensward. Large lawns and parks are not, as a rule, so subject to difficulties of this kind as are small private grounds. The problem there is that of converting not a normal but an abnormal soil into a suitable and congenial place for the growing of grasses.

The soil material consists of several recognizable grades, which can be determined in any given soil by analysis—clay, silt, very fine sand, fine sand, medium sand, coarse sand, and fine gravel. It is this difference in size of soil particles and in the proportions in which they are present in soils that has given rise to the different classes of agricultural soils, such as the clays, clay loams, sands, and sandy loams.

The following discussion of different soil classes will be useful as a guide in selecting soils suitable for lawn or park purposes and for the production of lawn soils by proper mixing of two or more soils of different texture.

Clay soils: When productive these soils usually make very strong lawn soils, giving a dense sod. In the regions suited to the Kentucky blue grass, excellent lawns consisting wholly of this most desirable of lawn grasses are easily obtained. The clay soils are usually, however, more difficult to prepare for lawn purposes, as the handling of the soil requires greater care than the more loamy soils to obtain a good physical condition at the time the seed is started. Liming is often desirable to help loosen the texture, and the plentiful incorporation of organic manure is almost a necessity. In very heavy clays it will often prove advantageous to incorporate a loam or sandy loam with the first few inches.

Clay loam soils: When well drained and carefully handled, a clay loam is well suited for the establishment of an excellent greensward. It is retentive of moisture in amounts decidedly favorable to a good growth of grass. In the making of lawn soils by mixing, clay loams give good results, especially for mixing with sandy soils.

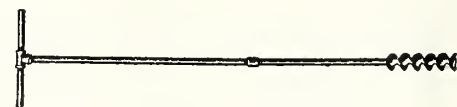
Silt loam soils: These soils are ideally adapted to lawn making, but they must have good drainage and be liberally supplied with organic matter.

Loam soils: These soils, when they have good drainage and contain sufficient organic matter, will maintain a good lawn. When hauled in, due consideration should be given to the nature of the soil or filling already in place, as this becomes the subsoil of the finished lawn.

Coarse sandy soils: These soils are unsuitable for lawn purposes. Although certain grasses will grow upon them, and

where necessary can be used as soil binders, the result produced can hardly be called ornamental. They are too dry and loose for lawn purposes.

Fine sandy soils: A fair lawn may be established on soils of this class by paying



SOIL AUGER FOR COLLECTING SOIL SAMPLES, AND EXPLORING SUBSOIL CONDITIONS IN LAWNS; PREVENTS DISFIGURING LAWN BY DIGGING HOLES.

special attention to the preparation of the soil by the introduction of manure or green manure, together with bone phosphates, and lime in some cases, and copious watering during dry seasons. With a clay or clayey subsoil a really good and permanent lawn can be established on such sandy soils without great difficulty, especially when a mixture of suitable grasses is used. Its low water-holding power is its chief drawback. Top dressings of well-rotted stable

manure is frequently desirable and often necessary in the soil preparation and as a later top dressing. Bone phosphate should be used in preparing the soil and may be later used as a top dressing.

Fine sandy loams: These are very similar to sandy loam soils in their adaptability to lawn making and have even a greater water-holding power.

Soils are underlain at different depths in different types by a distinctly different soil layer known as subsoil. In shallow soils this subsoil, usually of a different texture, but not necessarily so, is sometimes within a few inches of the surface, and is indeed often touched by plow or spade, and thus gradually the soil itself may be deepened and changed in texture. In other cases the soil is quite deep, often many feet, and in arid regions this change in soil material as one goes downward is often not observable at all.

A soil cannot be judged for lawn purposes simply by the visible surface or top soil as far as it is ordinarily cultivated or turned by plow or spade. The depth of the surface soil is very important and variable. Soils of widely different agricultural value owe this often to difference of depth alone. The fact that the nature of the subsoil has an effect on the productiveness and suitability of soil for lawn purposes has already been mentioned. Those soils having a clay subsoil are usually stronger soils and better able to maintain a good lawn than those having sandy subsoils. In the sandy soils the better results are always obtained where a good clayey or even clay subsoil occurs.

In the illustration are shown three-foot profiles of soil types illustrating different depths of surface soil and nature of subsoils as actually encountered under natural conditions.

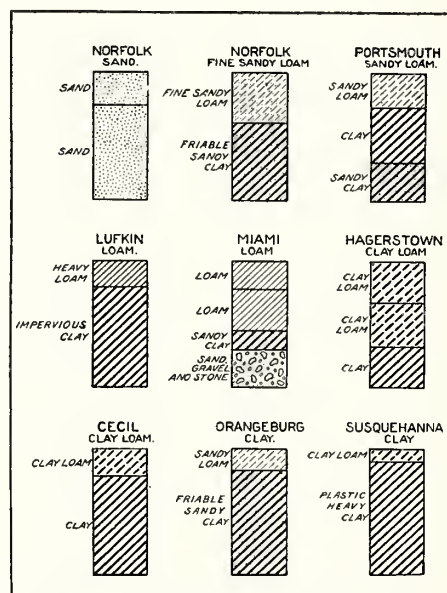


FIG. 2.—Three-foot profiles of soils, illustrating different depths of surface soil and nature of subsoils.

manure and other fertilizers from time to time are requisite for good results. Lime as a top dressing is also often desirable on sandy soils.

Sandy loam soils: Such soils make very good lawns when well drained and well supplied with organic matter; and, where underlain by a clay or sandy clay subsoil, they sometimes even rival the clay loam or silt loam in adaptability to lawn grasses. When low in organic matter the deficiency must be made up. Stable manure, forest mold, green crops plowed under, especially the legumes, afford very desirable materials for supplying organic matter. Lime is fre-

quently desirable and often necessary in the soil preparation and as a later top dressing. Bone phosphate should be used in preparing the soil and may be later used as a top dressing. The texture of the subsoil is fully as important as the texture of the soil, although the requirements of a good subsoil are usually somewhat different from the requirements of a good top soil. An impervious clay subsoil is utterly unsuited for any crop, and soils occurring above such subsoils are themselves usually poor, but can often be made most productive by laying drainage tiles in the subsoil. The character of the subsoil, its texture, and its distance from the surface are often vital criteria of natural productiveness and suitability of soils, and hence these factors must also receive consideration in the establishing of a lawn, whether it be by filling in of soil materials or on a soil in its natural position.

In the first place, the subsoil of a good lawn soil should not be too near the surface; that is, the soil itself should be a deep soil, never less than 6 inches and preferably as deep as 12 inches or more, for it must be remembered that a good subsoil, even when good as a subsoil, is nevertheless a poor substitute for a surface soil.

There is no doubt that in certain sections of the country some subsoils are harmful when incorporated in a soil, and that while deep plowing is desirable, it is unsafe, after shallow plowing has been carried on for years, to run the plow down and turn up a great mass of subsoil and incorporate this with the soil. In a great many cases it has taken several years to restore the original fertility of the soil. A subsoil should never be used in lawn building without being covered 6 to 12 inches with a good surface soil. The subsoil should resemble the surface soil in its general character. It should be heavier in texture when underlying sandy soils. The subsoil should be moist at all times, yet permit of good drainage. It should contain considerable amounts of water during the wet season, and later, during dry spells, be able to give it up to the surface soil and roots therein. By virtue of a close and firm texture it can draw moisture from a considerable depth. If the subsoil is of bad texture, such as impervious clay, the drainage is bad and the soil consequently cold and wet, unmanageable and unproductive, or if it consists of a loose sandy material it will be too leachy and consequently too dry, especially during droughts, because no water will be stored in it or drawn up through it from greater depths.

Other bad soil conditions, involving bad drainage, are various hardpan formations. These are usually layers of soil cemented together by lime or iron compounds and are found in some regions in large sheets or pockets, often immediately below the surface soil, thus acting as an effectual barrier to the movement of moisture, either downward or upward. Under such conditions, which are fortunately rare in soils to be used for lawns, grass cannot be grown any more than on a cement or other sidewalk buried a few inches under ground.

Some of the principles of soil building applicable to such cases as involve the alteration of soil already in place, the addition of surface soil over soil already in place, and the filling in and leveling of unsightly and unsuited places, for the establishment of private grounds, city parks, and terraces of many kinds are noted in the following text. These principles govern all cases where soil is to be transported from one place to another, the object being to establish a greensward on the soil in its new environment. Specific advice or directions applicable to all large civic improvements cannot be given on account of the

necessarily local nature of the problem. General principles can, therefore, only be emphasized.

The utmost care in supervision should be exercised in regard to the material used in the building of the soils of larger city parks where filling-in is often a necessary step. Had such simple precautions been followed in the past, poor public parks and lawns in public grounds surrounding public buildings of all kinds would not now be encountered. The remarks here made apply only to the last four feet or so of filling and not to cases where very deep fillings are made. Building debris, bricks and other coarse material should be absolutely barred from these last four feet.

For the reasons already discussed, the soil material which is to serve as subsoil should be preferably of heavier texture than the surface soil available for the lawn, and never of a distinctly sandy nature, if good results are desired. The heaviest material of the subsoil should be filled in first and as near as practicable distributed evenly over the entire area to be filled in. In large parks each lawn should be considered as a unit. It would seem needless to remark that old sidewalks, cement cellars of former buildings, etc., should first be removed, or at least thoroughly broken up, and yet experience has shown that this precaution is seldom complied with. The lighter material of the subsoil should then be hauled in on top of the first layer and spread out in an even layer. Where the material for the fill is all of the same kind and texture, this precaution is unnecessary, but wherever layers are likely to be formed each should be uniformly distributed over the entire area. The heavier layer should be the lowest and all the layers should blend one into the other. Distinctive layering and patches of different cross section in different parts of the lawn should be rigorously avoided. In other words, the usual practice of dumping a load of clayey soil here and a load of sandy soil there, or of dumping a load of clay on top of a distinct sand, cannot but fail to bring about a lack of uniformity in the subsoil of the lawn, resulting in different soil conditions establishing themselves in the course of time, giving patched lawns with poor and good sections or different grasses growing over different soil conditions in the subsoil, even if the surface soil be uniform. The importance of the subsoil in the building of lawns cannot be overestimated and the greatest care should be exercised where this is built up by filling in. The proper procedure of filling in for lawns costs little, if any, more than the haphazard way of dumping the material anywhere without due attention to texture and evenness of layering. In making the subsoil, the source of the material is, of course, not so vital a matter as with the surface soil, but the more nearly it is

like a good surface soil the more desirable.

The surface soil of a lawn must have been a good surface soil in its previous situation. It should be especially selected with due regard to the texture of the soil already in place as subsoil and especially in regard to its natural productiveness. The surface soil should blend with the subsoil; that is, its texture should not be markedly different from the subsoil and it should be lighter and loamier than the subsoil for the best results, unless the subsoil provided is sandy and loose. It is preferably obtained from a cultivated field, as this insures the best soil condition with the least danger of importing weed seeds. Inasmuch as the soil is to be put into permanent sod, it is, moreover, better to have had other crops immediately preceding its establishment. It should never be taken from clay or sand banks, cuts or excavations, or similar situations, as no amount of doctoring with fertilizers, manures, or lime will make such soil immediately productive and suitable for a lawn without previous cultivation and the growing of cultivated crops. Only the very best soil obtainable should be used for such purposes, and it should be further improved as far as possible by the addition of organic manures, such as stable manure and bone phosphates and in some cases by moderate liming.

The surface soil should be spread over the graded subsoil uniformly. The depth of surface soil to be hauled upon the subsoil depends somewhat upon the nature and texture of the subsoil itself. If the latter is heavy and distinctly of a subsoil character, being hauled in from clay banks or moderately deep excavations, the surface loam should be made quite deep, at least 12 inches, but may in cases where the subsoil is itself good in texture and loamy in character be made much shallower, but not less than six inches. The object should always be to offer a loamy substratum for the roots to an appreciable depth, so that they can penetrate deeply for their water supply.

Loams are not developed with equal success on all soils. This is due to the natural differences in soils as a result of their different formation, different texture, relation to subsoil, and to climatic conditions under which they occur and which also affect directly the grasses themselves. Some grasses are suitable for lawns under climatic and soil conditions under which other grasses perish, or at best do not reach that development necessary for the formation of a good turf. Attention has already been called to the influence of the texture of the soil on lawn building and the above statement emphasizes that thorough consideration be given to the soil region or province in which a lawn is to be established, or the soil series from which the lawn soil

is to be obtained, especially where the soil is to be hauled from the country to the city for the establishing of good lawns, parks or other public grounds.

The chief factors in this difference in soils has been brought about by the formations of soils from different geologic materials acted upon by different natural agencies, such as climate, humid, arid, semiarid; glaciers; wind; water—lake, ocean, and river. Due to such great differences in the soil-forming agencies, upward of 700 individual soil types have been found by soil surveys in the United States. These fall naturally into larger groups known as soil series, and these, again, into still larger divisions known as soil provinces.

The question of what soil is best suited for the purpose of hauling in as a lawn soil is a very broad one and is naturally a local problem. In the following list are given the soil types, which, in the states mentioned, are prominent grass soils, and may, therefore, be suggestive of the kind of soil to be used in those localities where they occur. For a detailed description of these soil types, together with maps showing their location, the reader is referred to bulletins from the Bureau of Soils, and the respective reports of the areas in the individual states as far as they have been surveyed.

Clays—Hagerstown clay, Alabama, Kentucky, Pennsylvania, Tennessee, Virginia, West Virginia; Cecil clay, Alabama, Georgia, Maryland, North Carolina, Pennsylvania, South Carolina, Virginia; Porter's clay, North Carolina, Pennsylvania, South Carolina, Virginia, West Virginia.; Houston clay, Alabama, Kansas, Mississippi, Texas; Upshur clay, New York, Ohio, West Virginia; Vergennes clay, New York, Vermont; Vergennes black clay, New York, Vermont; Dunkirk clay, New York, Ohio; Decatur clay, Tennessee.

Clay Loams—Decatur clay loam, Alabama, Tennessee, Virginia; Dunkirk clay

loam, Michigan, New York, Ohio; Cecil clay loam, Alabama, Georgia, North Carolina; Hudson clay loam, New York; Wickham clay loam, Virginia; Cumberland clay loam, Virginia; Brooke clay loam, West Virginia.

Silt Loams—Marshall silt loam, Illinois, Indiana, Iowa, Kansas, Missouri, Nebraska, Wisconsin; Dekalb silt loam, Alabama, Indiana, Kentucky, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia; Memphis silt loam, Illinois, Kentucky, Louisiana, Mississippi, Missouri, Tennessee; Sassafras silt loam, Delaware, Maryland, New Jersey, Pennsylvania; Norfolk silt loam, Alabama, North Carolina, South Carolina, Virginia; Lintonia silt loam, Illinois, Indiana, Kentucky, Mississippi; Hagerstown silt loam, Pennsylvania, Tennessee, Virginia; Knox silt loam, Illinois, Indiana, Wisconsin, Iowa, Kentucky, Missouri, Nebraska; Volusia silt loam, Indiana, New York, Ohio; Wheeling silt loam, Ohio, West Virginia; Lansdale silt loam, Pennsylvania, Virginia; Houston silt loam, Alabama, Virginia; Tyler silt loam, West Virginia; Penn silt loam, Pennsylvania; Dutchess silt loam, New York; Birdsboro silt loam, Pennsylvania; Upshur silt loam, Virginia; Oktibbeha silt loam, Mississippi.

Loams—Hagerstown loam, Alabama, Kentucky, Pennsylvania, Tennessee, Virginia; Chester loam, Maryland, Pennsylvania, Virginia, West Virginia; Dekalb loam, Alabama, Kentucky, Pennsylvania, West Virginia; Penn loam, Maryland, New Jersey, Pennsylvania, Virginia; Greenville loam, Alabama, Florida, Georgia, Mississippi; Upshur loam, Alabama, Pennsylvania; Cumberland loam, Kentucky, Tennessee, Virginia; Sassafras loam, Maryland, New York; Decatur loam, Alabama, Tennessee; Vergennes loam, New York, Vermont; Holston loam, Alabama, Tennessee; Volusia loam, New York, Ohio; Talledega loam, North Carolina, Virginia; Dover loam, New York; Wickham loam, Virginia; Fishkill loam, New York.

Fine Sandy Loams—Norfolk fine sandy loam, Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, Virginia; Orangeburg fine sandy loam, Arkansas, Alabama, Florida, Georgia, Mississippi, North Carolina, Oklahoma, South Carolina, Texas; Susquehanna fine sandy loam, Alabama, Georgia, Louisiana, Mississippi, Texas; Dunkirk fine sandy loam, Indiana, New York, Ohio, Wisconsin; Sassafras fine sandy loam, Maryland, New Jersey; Wheeling fine sandy loam, Ohio, West Virginia; Cumberland fine sandy loam, Alabama, Kentucky; Greenville fine sandy loam, Alabama, Louisiana; Dover fine sandy loam, New York.

Sandy Loams—Hagerstown sandy loam, Alabama, Pennsylvania, Tennessee, Virginia, West Virginia; Cecil sandy loam, Alabama, Georgia, North Carolina, South Carolina, Virginia; Carrington sandy loam, Illinois, Kansas, Minnesota, North Dakota, South Dakota; Sassafras sandy loam, Delaware, Maryland, Virginia; Collington sandy loam, Maryland, New Jersey; Greenville sandy loam, Alabama, Florida; Superior sandy loam, Wisconsin; Tifton sandy loam, Georgia.

The ideal soil for grasses best suited for lawn making is one which is moderately moist and contains a considerable percentage of clay—a soil which is somewhat retentive of moisture, but never becomes excessively wet, and is inclined to be heavy and compact rather than light, loose and sandy. A strong clay loam or a sandy loam underlaid by a clay subsoil is undoubtedly the nearest approach to an ideal soil for a lawn; it, therefore, should be the aim in establishing a lawn to approach as near as possible to one or the other of these types of soil. In many localities it will, however, be very difficult to produce by any artificial means at one's command a soil which will approach in texture either of the types recommended. Our efforts should, nevertheless, be directed to attaining as closely as possible these ideals.

SERIOUS DISEASE OF PINE TREES

The alarming character of the white pine blister rust and the economic loss which it threatens in the Northeastern and Western United States are sharply emphasized by four recent serious outbreaks on pine trees and currant bushes in Massachusetts and New York, says the United States Department of Agriculture. This disease was introduced on imported white pine nursery stock and first appeared at Geneva, N. Y., in 1906.

In 1909 extensive importations of diseased white pine nursery stock were located and destroyed in New York and other Eastern states, and warnings were issued broadcast against further importation of white pine from Europe. In spite of these warnings importation continued even from

the particular nursery in Germany which was definitely known to be the main source of disease, until finally, in 1912, all such importation was stopped by federal action.

The white pine blister rust affects the Eastern white pine, the Western white pine, the sugar pine, and indeed all of the so-called five-leaf pines, producing cankers on the stems and branches, killing young trees and maiming and disfiguring old ones. It also produces a leaf disease of currant and gooseberry bushes. The fungus causing the disease must live for a part of its life on pine trees and part of its life on currants and gooseberries. The disease cannot spread from one pine tree to another, but must pass first to currant bushes and then back to pine.

In Europe the disease has made the culture of American white pine impracticable in England, Denmark and Holland, and has seriously handicapped its cultivation in Germany. Since the trees which it attacks include three of the most important timber trees of the United States, the loss which this disease will produce if unchecked is very great. Fortunately, the disease is not now known to be present west of Buffalo, N. Y., but if it is not checked in the Eastern states its ultimate spread to the vast forests of the Rocky Mountains and the Pacific Coast is certain. The disease now occurs in three localities in New Hampshire, two in Vermont, ten in Massachusetts, two in Connecticut, five

in New York, one in Pennsylvania and three in Ontario, Canada.

The disease could be controlled now by the destruction of the diseased white pines or the complete destruction of all currant and gooseberry bushes in the vicinity of infected pine trees. Whether or not this simple action can be accomplished depends upon the legal authority possessed by the

various state horticultural inspectors concerned. If the inspector is not armed with authority to destroy either currant bushes or the diseased white pines without the consent of the owner, all efforts at control will be unavailing, as a single person by permitting diseased pines or currants to remain on his place can nullify the work of an entire community.

EFFECT OF CEMETERY ON ADJOINING PROPERTY.

"A cemetery may be objectionable or offensive to the taste of an adjoining owner, but it is not a nuisance in itself and its use cannot be enjoined merely because it is offensive to the esthetic sense of an adjoining proprietor. Before it can be abated or its use enjoined it must be clearly and satisfactorily proven to be a nuisance, and this cannot be done by evidence tending to show that it might become such."

So said the Illinois Supreme Court in the recent case of *Sutton vs. Findlay Cemetery Association*, 110 *Northeastern Reporter*, 315, in which it was decided that, under the peculiar facts of that case, a farm owner was entitled to enjoin maintenance of such underdrainage of a nearby cemetery as to pollute a stream used by him, but that, otherwise, plaintiff was not entitled to complain.

The court holds that expert testimony in the case left no doubt that underdrainage of defendant's cemetery would result in water and liquid from decaying bodies percolating through the soil into tile, carrying poisonous or disease germs, which would find their way into the stream used by plaintiff. The opinion says:

"We are of the opinion the evidence in this case left it free from substantial doubt that the proposed underdrainage of defendant's cemetery would contaminate and injuriously affect the water on complainant's premises for the uses to which it was put, and complainant was therefore entitled

to the writ of injunction restraining the underdrainage of the cemetery into the branch. The chancellor erred in not so decreeing, but did not err in denying the injunction as prayed, restraining the use of the land for burial purposes.

"The complainant contends that even without the underdrainage the burial of human bodies in the cemetery will contaminate the air on complainant's land and pollute the water of the branch. * * * In view of the character and lay of this land and the nature of the proof proposed to be made, we are satisfied it could not, under the rules of law above referred to, have justified awarding the writ of injunction. The great weight of the proof showed that the land was not low, swampy land. * * * Water on its surface finds its way with reasonable speed into the branch, and even if complainant's witnesses had been permitted to testify that in their opinion the use of the land for burial purposes, without any underdrainage, would injuriously affect complainant's premises and pollute the water of the branch, the very nature of the case is such it would not have established the fact so clearly and free from substantial doubt as to have justified enjoining the use of the land as a burial ground. It is not enough that it threatened to or might become a nuisance, but the proof would be required to go to the extent of satisfactorily showing that the nuisance is inevitable from the proposed use of the premises."

derground vault, I will confine my remarks to a consideration of that plan. In my opinion, from our experience in Forest Home Cemetery and observation in other cemeteries where a similar plan has been adopted, there are no serious objections, but, on the contrary, several advantages in having the receiving vault in the basement or lower floor of the chapel, providing the contour of the grounds surrounding the building will permit of entering the chapel from the front at one level and the vault from the rear at a lower level. The plan, besides being convenient, effects economy of space and money, utilizes what might otherwise be waste room, and results in a more compact and perhaps more acceptable building than if the vault was wholly above ground. It would, however, in my opinion, be objectionable to raise the chapel floor more than a few steps above the approach or have the vault floor much, if any, below the level of the roadway at the rear of the building, although even that has been successfully accomplished by having the door to the basement or vault approached by a long, easy decline.

I consider it inadvisable to have the elevator or lowering device communicate directly with the interior of the vault, but rather in a hallway or anteroom. The reasons must, I think, be obvious.

As a suggestion to your correspondent, I will briefly describe our situation. In our chapel the vault is situated at the rear of the building, partly under and in part outside of the chapel proper. The main stair leads from the rear of the auditorium to a small hall communicating with the elevator room, vault and rear entrance. We use the elevator at all services, whether the body is to be placed in the receiving vault, the crematorium, which is also in the same building, or conducted to the lot for burial. We find this plan saves time and avoids confusion. At the close of the services the casket, which stands on the bier directly in front of the pulpit platform, is lowered to the floor below, where it is received by the pallbearers or attendants and conveyed to the vault, or, in the event of an immediate interment, to the hearse in waiting at the rear door, which then proceeds to the front of the chapel and to its former relative position in the funeral procession, the family and friends in the meantime taking their carriages at the front door. If the body is to be placed in the vault and the family and friends desire to see it deposited, they are conducted downstairs to the vault door while the body is being lowered, and may either leave the chapel at the rear door or ascend the stairs to the front door, according to the arrangements made by the undertaker.

Our elevator is the ordinary hydraulic piston type and is, in my opinion, preferable

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department

Receiving Vault Beneath Chapel.

Editor Asked and Answered: Is there any objection to placing a receiving vault underneath a cemetery chapel, providing a lifting device is installed for elevating the bodies into the chapel for services? Can instances be given where this has been done?—A. P. B., Ill.

Relative to the inquiry of your correspondent, "Is there any objection to placing a receiving vault underneath a cemetery chapel, providing a lifting device is installed for lifting the bodies into the chapel for services? Can instances be given where this has been done?" it may be opportune

to say before dealing directly with the question, that in many respects it is advantageous to have the receiving vault so situated that it may be entered directly from the chapel, either on the same level or from the basement or lower floor of the building. The vault may be constructed above ground in connection with the chapel as a part of the general structure, or be wholly situated in the basement, or it may be semi-detached, perhaps concealed, and accessible from the interior of the chapel and from the outside.

Your correspondent being apparently particularly interested in the basement or un-

to all others, as it is absolutely noiseless. It is so arranged that it may be operated from a concealed position on both floors. The top of the elevator is flush with the floor and is surrounded by a bier-like structure with a door in the end to admit the car bearing the casket, the bottom of which comes just level with the top of the bier. The opening or top of the bier is so constructed that as the casket is lowered the opening, by a very simple device, is slowly and quietly closed. This plan was devised to guard the opening of the elevator and prevent possible accidents in the case of persons approaching the opening as the elevator descends.

Your correspondent may have a fear that the use of an elevator or lowering apparatus will be objectionable to some sensitive people who might possibly see in the act of lowering a casket a suggestion or omen somewhat harrowing to contemplate, but from twenty-three years' personal experience of almost daily occurrence, I can confidently reassure him. There have been times, but very rare, when families have expressed a wish, when the body was to be immediately interred, to have it carried out of the chapel by the front door, but not in one instance has this request been made when the body was to be placed in the receiving vault.

He will observe that I refer to taking the bodies into our chapel through the front door in the usual manner. If, however, his situation would require lifting the body from the lower floor to the chapel, that can easily be done, although we never do it except when conveying the body from the vault, where it may have been placed in advance, to the chapel above for the services.

I am not prepared to say that this plan in all respects is better than that of having the chapel and receiving vault on the same level in the same building, but it has proven very satisfactory in our case, and we have found no reason to regret its adoption.

JAMES CURRIE,

Supt., Forest Home Cemetery.
Milwaukee, Wis.

* * *

Personally, I can see no reason for objections, providing ventilation, light and lifting device are provided.

Arrangements of that kind may be found in Woodlawn, Toledo, O.; Lakeview and Riverside, Cleveland, O.; Lakewood and Hillside, Minneapolis, Minn., and in many other cities in the country.

FRANK EURICH,

Supt., Woodlawn Cemetery.
Detroit, Mich.

* * *

There is no objection to placing a receiving vault under a chapel, provided it is properly built and an elevator provided for raising and lowering the bodies. Such a vault should have well-ventilated catacombs,

which means outlets for the gases and fumes and a suitable draft in the rear to carry the gases through these outlets. The doors of the catacombs should be made fairly tight to properly carry out the idea. Such a vault and chapel was built by the writer at Elmlawn Cemetery, Buffalo, N. Y., several years ago.

No objection was found to a vault of this nature; in fact, I have heard nothing but compliments for it. It is more desirable than having a vault in the rear of the chapel, as it is sometimes done.

BELLETT LAWSON, JR.,

Supt., Elmwood Cemetery.

Chicago, Ill.

* * *

The receiving vault beneath the chapel is used satisfactorily here.

F. L. HOWARD,

Supt., Rosehill Cemetery.

Linden, N. J.

* * *

We see no reason why a receiving vault should not or could not be placed below a chapel.

Mr. Hobert's cemetery, Lakewood, at Minneapolis, has a most beautiful chapel with crypts below and lowering device to lower direct from chapel. In Highland Park Cemetery, Kansas City, Kan., we have chapel above with receiving vault below. The combined chapel and receiving vault should be located on a hillside, with an upper level for the chapel entrance and a lower level for the vault, as many of the funerals do not care to go through the chapel or two may occur at the same time.

There can be no objection from a sanitary standpoint to having the crypts below the chapel if proper provision is made for ventilating the vault portion. Few architects realize the necessity of something more than a few vents connecting with the crypts.

There are times when the atmosphere is heavy and such vents do not draw out the air. At such times an electric fan properly placed and connected up could be used to force the circulation, thus preventing any

odor in the vault or chapel. Experience has shown that there is not an air-tight casket made and that at times bodies left in the public vault may become a menace. In such cases it is well to have in some secluded part of the ground two or three crypts built of concrete in a hillside where such bodies can be taken until the family is notified and arrangement for burial made.

Such crypts are also valuable to a cemetery for use in case of contagious diseases where it is necessary to wait for some member of the family coming from another city.

HARE & HARE,

Kansas City, Mo. Landscape Architects.

Correction.

I just received the December number of PARK AND CEMETERY, and glancing through it I find my reply to your correspondent in September, 1914, regarding the cleaning of mausoleum interiors. It pleases me to know that you found the article interesting enough to give it a place in your columns. In the second paragraph I appear to suggest "painting the exterior or other work deemed necessary to keep the building in proper order and repair." This is merely a typographical error; but as stonework is occasionally painted, I might, by at least a number of your readers, be considered in favor of that, in my opinion, very objectionable practice. What I referred to was "pointing" the joints with mortar from time to time as that becomes necessary. This work and care of the building is highly important. No matter how good the material or with what care pointing may be done, time and the elements soon disintegrate or loosen parts of it here and there on a building, admitting moisture, which when it freezes tends to open up the joint further and in time displaces even the heaviest stones and finally brings the building to ruin. The old adage, "A stitch in times saves nine," was never more applicable or valuable than in this particular in the care of mausoleums.

JAMES CURRIE,

Supt., Forest Home Cemetery.
Milwaukee, Wis.

POST MAUSOLEUM IN BATTLE CREEK.

The construction of the elaborate new mausoleum to be erected in Oak Hill Cemetery, Battle Creek, Mich., as the final resting place of the body of the late C. W. Post by his widow, Mrs. Leila Y. Post, has been begun.

The structure will occupy a commanding position in the cemetery and is to be built of Victoria white granite with an interior of cream Siena marble. The cost of the mausoleum will be in the neighborhood of \$100,000.

The architects are Carrere & Hastings and T. E. Blake, of New York. The

Victoria White Granite Co., of Keene, N. H., will cut the work.

The mausoleum proper will be 16 feet 6 inches square, while the total area of the granite platform on which it is to stand will be 40x40 feet. The two sarcophagi are made of the same Italian marble as the interior finish and are exquisitely carved. The heavy doors are of bronze. Over 630 tons of granite will be used and the roof is composed of three single stones weighing 86 tons.

The body of Mr. Post has been resting in a crypt in the receiving vault, pending the completion of plans for a private structure.

PLANTING MATERIAL FOR THE SEMI-ARID WEST

From Annual Report of Nicholas Byhower, Superintendent of Parks, Salt Lake City, Utah.

One of the most expensive luxuries indulged in by municipal governments or private parties is the creation of parks or landscapes and the maintenance thereof. This is more truly the case of such work if attempted in arid climates and under climate conditions as prevail here. The preparation of the soil, the provision of sprinkling facilities, the requisite of growing trees and shrubs of sufficient size to be of any benefit, cost as much per acre as it takes to create a park at once in the more fortunate states where nature affords advantages of better conditions. The cost of maintenance of our parks and grounds far exceeds the cost of such improvements in other cities and a month of neglect in their constant sprinkling, irrigation and cultivation would mean the complete destruction of everything acquired by care and efforts. In addition, in our climate a large variety of shrubs and plants and trees native to other states could not be made to grow here, even with the utmost care.

The magnolia, rhododendron, aucuba, laurus, holly, Hydrangea hortensia may be forced to grow in our greenhouses, but like the begonia, fuchsia, coleus, Gloxinia, etc., they are useless in our altitude. The same is true of our trees, of which only a limited number are of any practical use. The box elder or ash leafed maple is our local tree and with the Lombardian poplar was the reigning variety for many years. The oriental and occidental sycamore do well, and while we can plant and grow elms and silver and Norway maple fairly well, they do not develop nearly so well as they do in more humid climates. Our climate is not conducive of the proper development of the foliage of our trees and this condition need not be a matter of surprise when we take into consideration the conditions as they were when the first settlers appeared in this valley. That time dire prediction was rife, and it is a matter of history that the first bushel of corn grown brought its weight in gold. Therefore it is all the more surprising when we see the results which have now been attained. Cereals and fruit of superior quality are produced and Salt Lake City has become the center of a most prosperous horticultural and agricultural country. However, the insistent demand on our climate and natural conditions have not been overcome to any marked degree and the maintenance of parks and gardens is still a matter of difficulty and hard work. In a comparison of our improvements of this nature with that of other localities consideration should be given to the handicap under which we constantly labor and the additional expense which is

necessary to insure, in order to accomplish such results.

As already stated, only a limited number of the many varieties of shade trees can be successfully grown in our climate and at our altitude. In many localities the silver maple, Norway maple and sycamore are well adapted. The ornamental sycamore is a good tree in medium high localities and also the lindens, both European and American variety. Of the elms, the corky elm is a very good tree and the Huntington and Scotch elm are excellent varieties. Other varieties of elms are usually poor and liable to scale.

If you are possessed with enough patience to wait for a horse chestnut to grow, they may be planted with good results. Any variety of poplar does well here, but borers are a troublesome enemy of this tree. White and green ash do well, but are usually the first to be covered with the bark lice. Locusts are inferior trees, much more so the black locusts; under this tree vegetation appears to wither, except fox-tail grass, which is undesirable. Box elder is our local shade tree and if well cared for as to shape is a good tree; however, it is the permanent abode of the green aphids and therefore in disgrace. As an ornamental tree for lawns, narrow avenues and drives, the tulip tree (Liriodendron) is to be recommended. In more humid climates it grows to a large tree, but is a medium sized tree in our climate.

The Ginkgo (Salisburia) does well and only attains a medium size, growing to a columnar shape. The white birch and cut leafed or so-called weeping birch are beautiful on any grounds.

The sweet gum tree (Liquidambar) is a very small but very picturesque tree. Of the flowering ornamental trees, the catalpa speciosa is a well-known and ornamental tree, but grows to an irregular shape if not properly trained when young. The red or Judas bud tree is fine, both for its bloom and foliage. The varnish tree (Koelreuteria), a fern-like foliage tree with panicles of yellow flowers in June, is very fine. The Pagoda tree is a very ornamental tree with fine foliage, white flowers and bright green bark, very odd and elegant. The golden chain (Cytissus laburnum) is a fine flowering shrub-like tree with long chain-like flowers and green bark. Its bark is poisonous, however. Of the locusts the rose acacia or (Robinia Viscosa) is very beautiful.

The purple leafed plum (Prunus pissardi) and the double flowering peach and cherry are very ornamental in any landscape. Even the common cherry

(sweet cherry) and crabapple are appropriate as an ornament. The hawthorne and mountain ash are well known and valuable ornamental trees. A good tree with silvery foliage, fruit and flowers is the Russian olive (Eleagnus angustifolia). The empress trees (Paulownia Imperialis) has the largest leaves of any tree and is ornamented with lilac colored flowers. The varieties mentioned have proven that they can grow here and are found in a very limited number in our gardens.

Aside from well-known shrubs like lilac, snowball, etc., a few kinds may be especially recommended. They are the golden bells or forsythia, which blooms first of all shrubs, when not yet in leaf. The Althea is a very pleasing, ornamental looking shrub, with beautiful colored foliage and lilac flowers. Japanese snowballs and red flowering currants, Hydrangea Americana and paniculata and Halesia Tetratheca are very ornamental. Lilacs may be had in reddish purple, white and several shades of purple. The blue spirea, cariopteris, is a fine shrub in shady locations. The almond, double flowering, and the double flowering plum, Prunus triloba, are beautiful shrubs. The early and late blooming varieties of spireas are very beautiful. Kerria, with yellow flowers and bright green bark, makes a good effect.

So many different varieties of roses are cultivated that it is difficult to select any one from the hundreds of varieties. Suffice to say that our best known varieties belong to the hybrid perpetual, hybrid tea, tea, bourbon, polyantha, noisette and rugosa roses. The best way is to plant roses in beds or groups instead of scattering them separately in the garden. Better care can be given them when they are planted together on a well prepared rosebed. Fertilizing, effect will be more observed than otherwise, and cultivating and spraying can be better attended to. It is not well possible to give one certain rule for pruning the rosebush. Hybrid tea roses demand very little and the tea a little more, while hybrid perpetual and bourbon roses usually require a severe pruning.

The best rule to follow for our roses is, to prune short those of weak growth, to prune long those of strong growth, and, above all, to cultivate and fertilize, as the rose is a gross feeder. Old wood should be constantly replaced by new vigorous shoots. This department takes pleasure if the opportunity presents itself, in advising and assisting towards good results in gardening, etc. We also appreciate any suggestions or information which might tend to aid us in our efforts to make Salt Lake City more beautiful.

BEST CEMETERY MONUMENTS OF THE YEAR

Progress in Design Shown in Some Examples of the Best of the Ordinary Types of Monuments.

The best cemetery monuments of 1915, as we see them, show a distinct advance in artistic quality. PARK AND CEMETERY has

effect in examples of the best cemetery monuments erected in 1915.

Progress in cemetery art is necessarily

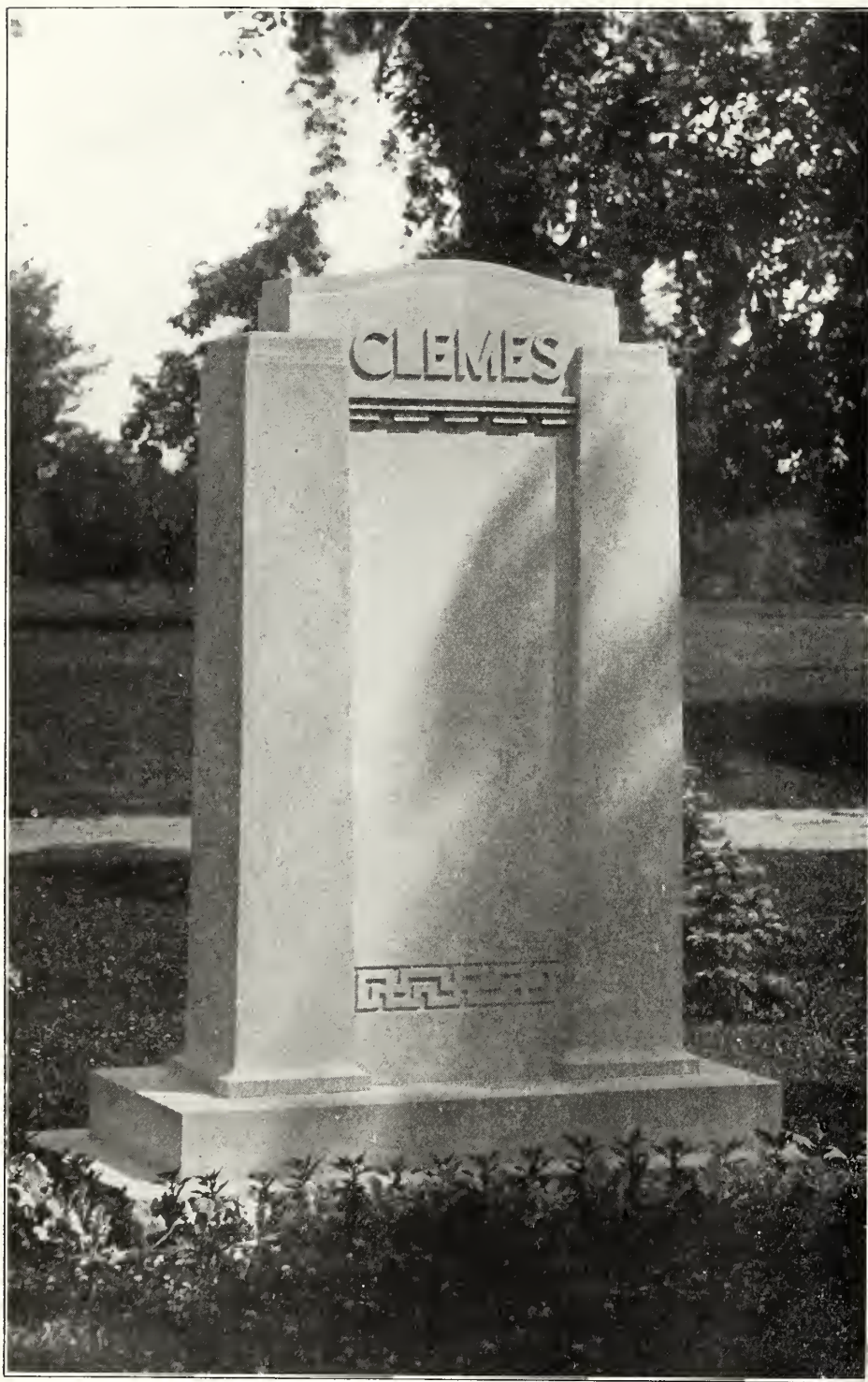
pority. The close student of cemetery art, however, who notes the character of the monuments that have been erected in recent years, will find the general average of design much in advance of the standards of the days of the "old reliable" cap job, the cottage abortion that was about two-thirds bases and cap, and the jagged oceans of waves that surged as "rock jobs" over the helpless deceased.

The older forms are being refined—some of them, happily, have been refined out of existence—lines are approaching more nearly to correct architectural proportions, and decorations are being designed to harmonize with the contour and character of the monument, and not merely to provide so much extra work for the carver.

In presenting here a few of the best monuments erected by representative firms in widely separated sections of the country, the high average of design and quality is distinctly noticeable. No effort has been made to secure the unusual, the elaborate or the expensive memorials that have occasionally been erected where unlimited funds and exceptional sculptural or designing talent were available, but rather to secure the better examples of the common, every-day types of cemetery monuments. They demonstrate in many cases what may be done in rendering the simple monumental forms into worthy artistic memorials, and in a number of cases really original and artistic works of monumental architecture have been produced.

The most distinctive types of the really beautiful forms of these simpler cemetery memorials in recent years are to be seen in the upright monumental tablet form of monument, the best examples of which have been developed along the lines of the beautiful German art designs that were introduced to American designers in the series that began in MONUMENTAL NEWS some two years ago. Observant readers who are careful students of design will recognize the influence of these German tablet forms in many of the finest of our present-day monumental tablets. The interesting architectural combinations of the different members and the variety of decorative treatment possible have aided in developing some really beautiful memorials of the upright tablet type.

A variation of this type has been developed by a combining of the massive character of the sarcophagus and lightness of the horizontal tablet into what might be termed a sarcophagus-tablet memorial. An interesting upright memorial that might be characterized as a squared sarcophagus or a lower "cottage" form will also be noted among the successful variations of our common types. The horizontal tablet proper



MONUMENTAL TABLET OF BEAUTIFUL DESIGN.
Executed by McIntosh Granite Co., Ltd., Toronto.

been optimistic enough to believe that standards of monumental design have been advancing for some years, and we are glad to have the opportunity of presenting to our readers some concrete evidence to this

slow, for monuments ordinarily last a long time, and the artistic monstrosities erected from five to fifteen years ago are still very much in evidence in a casual view of the cemetery—in fact, they are still in the ma-

is also seen in several interesting modifications.

The general type known as the "exedra," first developed in our public monuments, is still popular in many variations and for the more imposing architectural memorials offers many possibilities in the variations in treatment of the central member and of the wings.

Some original and unusual forms, such as vase and seat monuments and cinerary memorials, have made their appearance, and have been effectively utilized where the desire is to get something entirely different from the conventional monument.

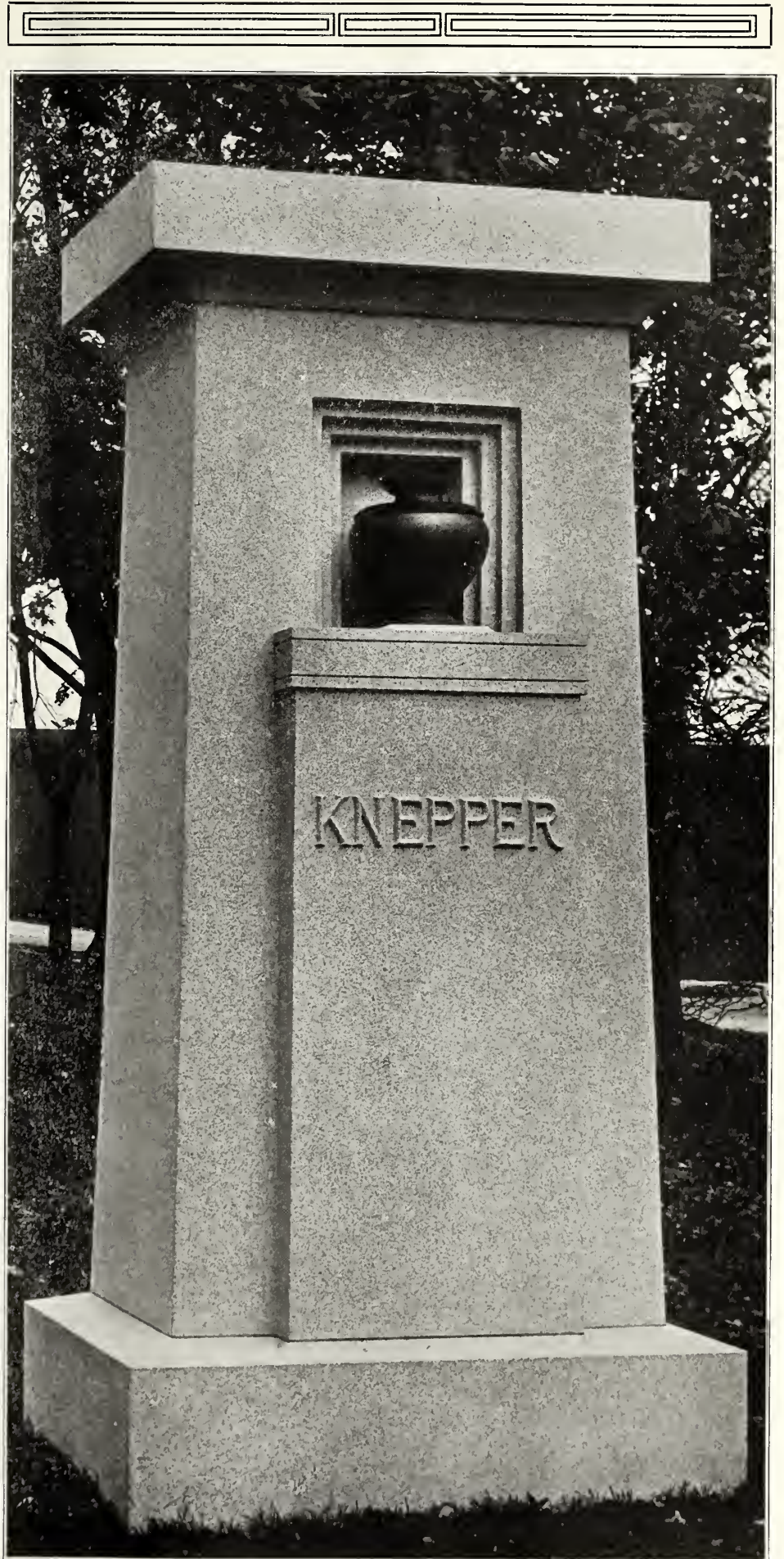
The year's best work in monumental design has been not so much in the development of strikingly new and novel forms as in the refinement of the common monumental forms—the more successful application of the principles of good architecture and decoration to the prevailing styles and shapes of monuments.

Probably no more typical examples of the successful use of the beautiful tablet form in ordinary cemetery monuments could be found than in the "Clemes" monument, executed by the McIntosh Granite Company, Ltd., of Toronto, and the "Knepper" memorial, by McDonnell & Sons, of Buffalo, N. Y., and Barre, Vt. The first mentioned was designed by Robert D. McIntosh, and the "Knepper" was studied from a German design.

The original was a prize design selected in a competition of German artists and architects, and the designer has very successfully adapted it to the uses of a modern American cemetery memorial.

The beautiful architectural effect secured in the "Clemes" by the buttressed members at the corners, and the carefully studied top and decorations, will be apparent to any eye. Every line is harmonious and every member executed in good taste and just proportions. To enhance the monumental effect, the work is cut in only two stones. The two bases are in one piece, 6-0x3-2x1-1 high, and all the rest of the monument in one stone, 4-0x1-4x6-8. The work is twelve-cut and the panel is finished alike both front and back. The "Clemes" was cut by the McIntosh Granite Co. from Barre granite furnished by the Wells-Lamson Quarry Co. and is erected in Mt. Pleasant Cemetery, Toronto. This memorial is of much interest from the point of view of original design, although not the largest or most expensive work this firm has erected.

The "Knepper" monument is one of the finest types of the best art cemetery monuments that has been developed in Germany by art competitions and exhibitions, and secures its effect solely by the correct combination of architectural lines and masses. It shows how beautiful a memorial can be made in this way with a minimum of decoration and a severe sim-



MONUMENTAL TABLET DESIGNED IN GERMAN STYLE.
Executed by McDonnell & Sons, Buffalo, N. Y.



ORIGINAL DEVELOPMENT OF TABLET FORM.
Kimball Brothers, Lincoln, Neb., Contrs.

plicity of line. It was cut in Barre granite by McDonnell & Sons in their own plant at Barre and was erected in Forest Lawn Cemetery, Buffalo, N. Y. It measures 4 feet 6 inches by 3 feet on the

ground and has a total height of 9 feet 7 inches. The urn is of standard bronze.

One of the finest cemetery memorials yet developed along simple lines is the "Mullen" memorial designed and erected by

Kimball Brothers, of Lincoln, Neb. This form is an original one and is a combination in design of the sarcophagus and tablet styles. It has the graceful, upright lines of the best of the tablet monuments and the massiveness of the sarcophagus, and the simplicity and harmony in decoration that distinguishes true art. The simple classic frieze, the lilies carved into a cross on the end and the little rosettes have been used with rare skill to produce an effect of richness and dignity without ornateness. For simple, medium-sized granite work it would be difficult to find a more beautiful form than this. It is of Barre granite, 6-0x3-3x1-3 at base and 4-9x1-9x3-10 die, and was cut for Kimball Brothers by Rossi & Casselini, of Barre.

A beautiful tablet memorial embodying a very expressive and appealing original symbolic sculpture is the "Hoit" memorial in Mt. Hope Cemetery, Chicago. This is a very simple stele 7 feet 4 inches high, executed in pink Tennessee marble. The sculpture is intended to suggest the idea of lifting the veil of the hereafter from the eye of the soul. The expression of the face and the treatment of the drapery to merge the sculpture into the stone has been very skilfully handled. Below in incised letters appears this quotation from Browning: "The best is yet to be; the last of life for which the first was made." This monument was erected by Mr. Lowell Hoit in memory of his wife, and it is the work of Evelyn B. Longman, the well-known New York sculptor. The marble was cut by Piccirilli Brothers, of New York.



HOIT MEMORIAL, CHICAGO, AND CLOSE VIEW OF ITS SCULPTURE.
Evelyn B. Longman, Sc.

FIGHTING GIPSY MOTH WITH PARASITES.

Over 12,000,000 specimens of two parasites which prey on the gipsy moth and brown-tail moth were released in 201 towns in Maine, New Hampshire, Massachusetts and Rhode Island during the fall of 1914 and spring of 1915, according to the annual report of the Bureau of Entomology, United States Department of Agriculture.

As a result of the successful establishment of colonies of these and other parasites which feed on gipsy and brown-tail moths, marked progress is being made in reducing these pests. Effective cooperation

is being afforded by the states, which carry on as much work as possible within the infested areas, thus allowing the federal authorities to carry on field work along the outer border of infestation, so as to retard the gipsy moth's spread.

As a result of the scouting work carried on by the entomologists in 223 towns in New England, the gipsy moth was found in 4 towns in Maine, 23 in New Hampshire, 3 in Vermont, 10 in Massachusetts, and 10 in Connecticut, making a total of 50 towns where the insect had not been previously reported.

PARK NEWS.

Announcement has been made that the Department of the Interior has completed, on the rim of the Grand Canyon in Arizona, a memorial to Major John Wesley Powell, the intrepid pioneer and celebrated scientist who first explored the Grand Canyon. The memorial is an altar decorated in Indian imagery and supporting a bronze tablet, resting upon a pyramidal base of rough-hewn stone. Fifteen steps lead from the west up to the altar floor, from which one may gaze into the very heart of the glowing mile-deep canyon. It is a structure worthy alike of the rugged forceful personality of the man and of the titanic chasm which it overlooks. The spot chosen for the memorial is Sentinel Point, a promontory south of the railway station, which commands a particularly fine view of the Granite Gorge and of the river, whose unknown terrors of whirlpool and cataract the Powell party braved in small open boats. The structure, which is built of weathered limestone from the neighborhood, has a rectangular base 21x28 feet. The altar carries on its east side a medallion portrait of Major Powell in bronze bas-relief by Leila Usher and the inscription.

R. B. Marshall, chief geographer of the United States Geological Survey, has been changed to the position of superintendent of the national parks, to take effect at once and to continue during the balance of the fiscal year. Sledge Tatum has been designated acting chief geographer and he will continue to serve as geographer in charge of the Rocky Mountain division.

The Board of Park Commissioners of Cincinnati, O., recently issued its annual report for the fiscal year of 1914, which consists of a resumé of the year's most important work, reports of the executive officers and financial statement and statistical tables of Cincinnati parks. The total donation of park property during the year was 205.003 acres and the total acquisition of park property 397.909 acres, making the

total park area at the close of business December 31, 1914, 2,400.864 acres. Five new buildings were erected, namely, one each at Washington Park, Lincoln Park, Grant and Symmes playgrounds, and Eden Park music pavilion. An addition was also made to the Inwood house. Seventeen of twenty-two playgrounds were in operation. The attendance exceeded a million. The grounds are placed throughout the more populous districts of the compact city, the most easterly being at Turkey Ridge, the most westerly in the West End, the most northerly in Walnut Hills. Although the Kessler plan includes numerous parkways, but one has been undertaken, and that in part only, namely, the Bloody Run Parkway, extending from Chapel street, Walnut Hills, to the north end of Avondale, ostensibly to connect Eden Park with Avon Field. The parkway will consist of good, smooth roads, bordered by wide grass, sidewalk and tree spaces, interspersed with gardens, pools, playgrounds, tennis and game courts, groves and shrubberies. For convenient reference the parkway is divided into six sections, in two of which one road is complete. Three sections are under construction. This parkway is $2\frac{1}{4}$ miles in length. Eighteen thousand seven hundred and fourteen

shrubs and trees, 2,984 herbaceous perennials and 21,075 vines were planted during the year.

New Parks and Improvements.

Plans are being prepared for a new parkway connecting Ottawa Park and Ottawa Hills, Toledo, O. It will be offered to the city as a part of the city planning scheme and will be suggested as a site for the proposed Gunkel monument.

At a special election held recently the people of Jackson, Miss., decided to issue bonds in the sum of \$36,000 for the purchase of Livingston Park, a tract of ground composed approximately of 78 acres and situated at the end of the West End car line. Definite plans of the administration relative to any improvements to be made on the property after the purchase have not been announced.

The city of Newcastle, Ind., is considering the purchase of ten acres of land owned by the Maxwell Motor Co., south of the city, to convert into a city park.

Charles E. Coffin, Samuel E. Rauh and Fred C. Gardner were recently appointed members of the Board of Park Commissioners of Indianapolis, Ind., to succeed Dr. Henry Jameson, J. W. Fesler and John J. Appel.

A considerable number of city officials, leaders of the women's clubs and directors of the Chamber of Commerce of Dixon, Ill., recently met and discussed plans for beautifying their city. E. N. Howell, chairman of the Park Board, presided over the meeting. Following are some of the suggestions made: Make a beautiful park out of Haymarket square; improve and beautify both shores of Rock River from the Illinois Central railway bridge to the east line of the city limits; mark in a fitting way the spot where Lincoln was mustered into the United States army and where met Lincoln, Jeff Davis, Zachary Taylor and Captain Anderson, the hero of Fort Sumpter; extend North Crawford avenue, with the brick and the street car lines, on past the state colony and into Lowell Park, giving a shorter and more scenic route to the park; connect park drives to be laid out in the state colony grounds with city streets.

CEMETERY NOTES

Following are some items of interest in the by-laws of the Cemetery of Calgary recently passed by the council of that city:

Rights and Duties of Lot Owners: Lot owners shall have their lots cared for and sodded under the direction of the superintendent, and shall pay therefor the charges set forth in the Schedule "A" hereto, and such owners may have any extra care or attendance given their lots, such as planting, cultivating or watering trees, shrubs or flowers.

upon paying the superintendent such sum or charge as may be agreed upon.

Owners of lots shall have the right to cultivate trees, shrubs or plants for the purpose of adorning their lots, provided such work is done under the supervision of and with the consent of the superintendent, and provided such trees, shrubs or plants do not in any way, in the opinion of the superintendent, detract from the good appearance of the cemetery or materially obstruct the view.

Any persons altering their lots after same have

been graded, thereby disarranging the previous improvements, shall be charged with the cost of putting such lots into their former condition as ascertained by the superintendent, and such amount may be recovered by the city as an ordinary debt.

Benches shall be permitted on the lots when the material and style of same are approved by the superintendent, and such benches shall be properly maintained and have painted on them the word "Private," with the name of the lot and the number of the section on which they are situated.

Rights and Powers of Superintendent: All vases, urns and plant stands not properly cared for and such as are not filled with plants or flowers on or before the 20th day of June in any year may be removed from the lots on which they are situated by the superintendent and stored. If applied for by the owner within one year from the date of removal the same shall be returned.

Monuments: No monument shall be erected in the cemetery until the design and description thereof has been approved by the superintendent and a permit granted by him for the erection of such monument.

All foundations for the erecting of monuments shall be constructed by the caretaker, or some other person employed by the superintendent, under the direction and supervision of the superintendent, and all specifications for such structures shall be furnished by the said superintendent, the cost thereof to be paid in advance by the grave or lot owner or by the persons ordering same, such costs to be at the rate of 35 cents for each cubic foot of structure.

In erecting monuments lot owners shall not duplicate any other design in the immediate vicinity of their lot without the consent of the superintendent.

The superintendent shall from time to time report to the commissioners and owners upon the condition of any monument out of repair, and it shall be the duty of the owner of such monument to repair same without delay to the satisfaction of the superintendent.

Whenever an owner of a monument neglects to make the required repairs or alterations after receiving due notice from the superintendent, the superintendent shall allow a period of three months to elapse, after which time he shall have the power to remove such monument from the cemetery or to repair such monument and charge the cost thereof to the owner, which may be recovered as a debt from the owner to the city.

In the erection of monuments the superintendent shall in all cases designate the place where the material to be used for the erection of such monument is to be stored during the course of erection or excavation, and all workmen moving any heavy material over lots and paths shall move same on planks laid across the paths or lots, so as to protect such lots or paths from injury or damage.

Vaults: Foundations of all vaults or monuments shall be made as large as the bottom base or first masonry course above the ground; provided, however, that the superintendent shall in any case have power to require a larger foundation of such size as he may deem necessary.

All foundations for vaults built above ground shall be constructed under the direction of the superintendent at the expense of the owner when no architect is employed to supervise the work, and where an architect is employed the owner shall have the superintendency of the whole structure, subject to the approval of the superintendent.

No vault shall be constructed or erected wholly or partially above ground without the permission of the superintendent, and such vault shall be furnished with shelves having divisions therein, allowing separate interments to be made therein, and each such shelf shall be hermetically sealed to the satisfaction of the medical health officer.

At a recent meeting of the Board of Trustees of the Woodlawn Cemetery, Boston, Mass., the following rule was adopted: "Funerals will not be permitted on the following legal holidays: Washington's Birthday, Patriots' Day, Memorial Day, Independence Day, Labor Day, Columbus Day, Thanksgiving Day and Christmas. Any of the above holidays falling on Sunday, the following day will be observed."

A bequest of \$500 to Aspen Grove Cemetery Association, Burlington, Ia., was made in the will of E. S. Huston, formerly of that city.

The council of Princeton, Ill., recently purchased two Wellman lowering devices for use at Oakland Cemetery.

A new municipal mortuary vault at Gracelawn Cemetery, Elkhart, Ind., was completed recently under the superintendency of Sexton Frank J. Neff.

At a meeting of the Cemetery Board of River Cliff it was decided that an effort be made in the future to discourage Sunday funerals in Mt. Gilead, O.

Cemetery Officers Elected.

The Linwood Cemetery Association, of Pana, Ill., has elected Miss Jennie McKoy president and Mrs. Lee Robb secretary. Charles Gudehus was re-elected sexton.

R. R. Ingersoll was re-elected president of the Pine Lake Cemetery Association, of Laporte, Ind. All the officers and trustees were re-elected. The association expects to do further work in the improvement of the driveways through the cemetery and expects eventually to have them all macadamized.

Muscataine Island Cemetery Association, of Muscatine, Ia., has elected Morris Strouse president and Mrs. Alice Walton Beatty secretary. The most important step taken by the officers of the cemetery association was to set aside a potter's field.

The cemetery association of Hickville, Ind., at a recent meeting has employed Edward Andrews as caretaker of Forest Home Cemetery.

New Cemeteries and Improvements.

Lutheran Pioneer Cemetery Association, Gladstone, Stark County, N. D., has been incorporated by Nels Swenning, William Dobie and Frank Enger.

Werner Cemetery Association was recently incorporated at Werner, Dunn County,

N. D. The incorporators are L. A. Winter, O. L. Baeuser and W. H. Bessire, all of Werner.

A number of women in the vicinity of Peninsula, Mo., recently organized the Peninsula Cemetery Club. Mrs. I. Smith is president and Mrs. C. C. Alley secretary.

The Long Cemetery Association has been incorporated at Wabash, Ind. The directors are Schuyler Long, William Purdy, Calvin Dawes, Christian Gurtner and William Flora.

Mound Cemetery Association at Mound, Slope County, N. D., was recently incorporated by A. E. Willis, E. V. Harris and William H. Willis, all of Mound.

Fairview Cemetery Company was recently incorporated at Columbus, O., by William C. Nowlin, Maggie M. Nowlin, John J. Edgar, May Edgar and William E. Learned. The capital is \$50,000.

Townsend Cemetery Association, of Stockton, Ill., filed incorporation papers in the circuit clerk's office recently.

Holy Cross Cemetery, of Ellicottville, N. Y., has been entirely remodeled. The cost of the work was \$3,000.

The Brooklyn Cemetery Association, of Dixon, Ill., contemplates adding more land to the burial grounds and has selected an acre of land adjoining and owned by the Holden estate.

Improvements at Sires Cemetery, Trenton, Mo., including a new fence and other work, have recently been completed.

Work will be started soon in clearing out the underbrush on part of the 500-acre tract south of the city of San Antonio, Tex., owned by the city, with a view to utilizing it for cemetery purposes. This work is to be done by the city prisoners.

An additional acre of land on the north side of Fairview Cemetery, Joplin, Mo., is being laid out in lots.

THE COVER ILLUSTRATION.

Everybody has heard of the famous Sleepy Hollow Cemetery at Tarrytown, N. Y., that was made famous in Washington Irving's legend, and the entrance to this historic burial ground shown on the cover of this issue has both a historic and a practical interest as a fine type of cemetery entrance.

Sleepy Hollow lies in one of those spacious coves which indent the eastern shore of the Hudson, in a valley among the high hills, a short way out from the town, beautifully situated in a neighborhood abounding with "haunted spots" and twilight superstitions.

The front cover illustration shows the main entrance and double drive gates with a walk gate on either side, each of which is hung from an ornamental iron panel post fastened to the pier, as shown. These especially attractive piers are built of a peculiar red pressed brick, set on granite bases and capped with massive granite ornaments.

The central piers are each 15 feet high, to which the panel posts are anchored by heavy bronze lugs and from which the gates are rigidly hung.

This well-balanced design was executed in July, 1909, by The Stewart Iron Works Co., of Cincinnati. The double drive gates are 18 feet wide, stand 13 feet 3 inches high in the center, are built of ¾-inch square iron, set 5 inches apart, supported by special 2½-inch three-ribbed steel channel rail, and hung on 2-inch square hinge bars, securely fastened to the newels. The walk gates on either side are similarly constructed of proportionate dimensions, being 6 feet wide and 8 feet 6 inches high on the hinge side. The scrolls and ovals form a particularly pleasing feature of the design, which has been worked out in both the fence and gates to harmonize with the rolling grounds of this most picturesque cemetery.



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OAK Forest Cemetery is located at Hinsdale, Ill. Here is a greenhouse built of the best of materials and in the best way possible to meet the general purposes for which it was intended. No fuss and feathers—just a plain, practical proposition.

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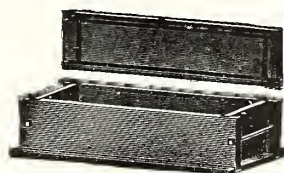
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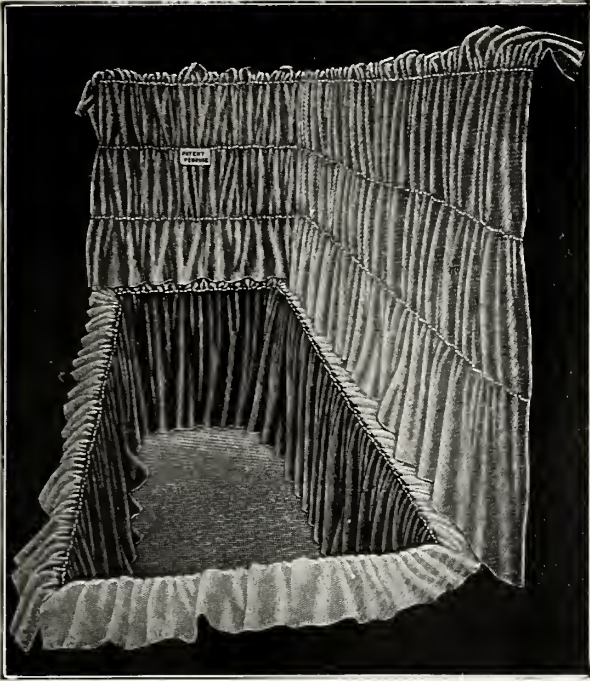
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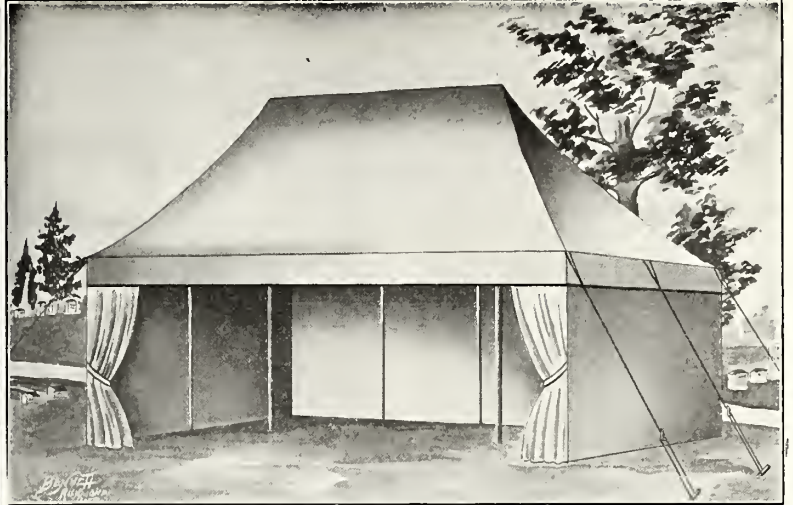
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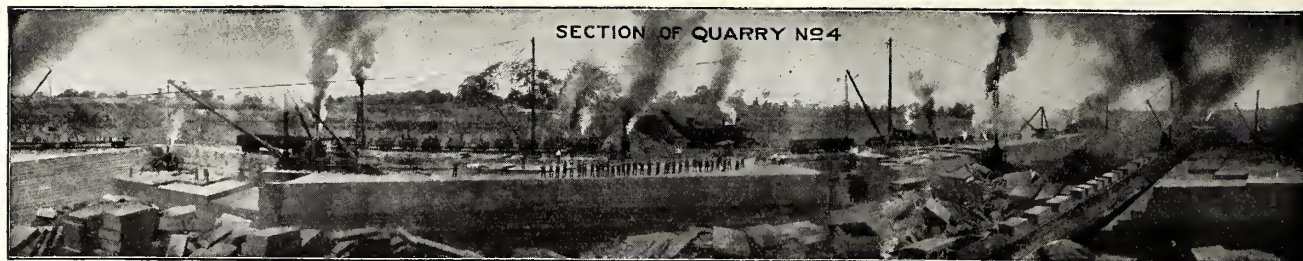
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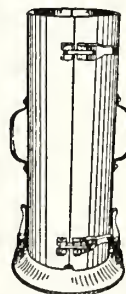
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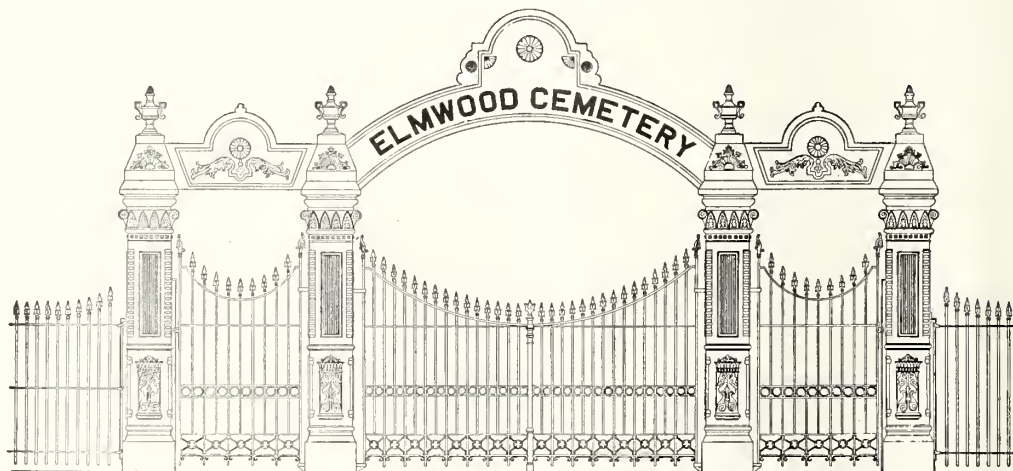
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SPECIAL FEATURES IN THIS ISSUE

Great Hudson River Interstate Park—Meeting of American Academy of Arborists—Boundary Treatment of Cemeteries—Cemetery Road Building with Refined Tar—Treatment of Injured Trees—What the National Parks Need—Some Problems of Cemetery Law



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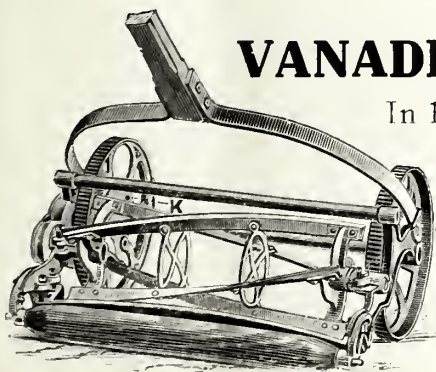
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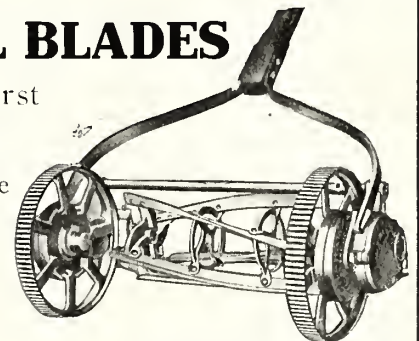
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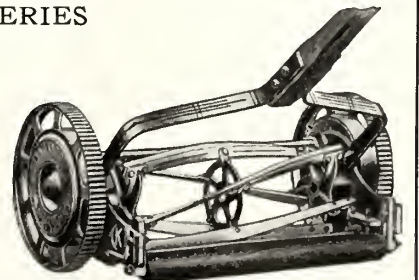
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FEBRUARY, 1916

EDITORIAL

VOL. XXV No. 12

Planning a New Cemetery

The frequency with which PARK AND CEMETERY is asked to lay out and develop a new cemetery by return mail is our excuse for again mentioning the fact that the establishing of a cemetery is a task requiring an unusual degree of highly specialized training, years of experience and executive ability. The business man who would not dream of planning a house without an architect or going into court without a lawyer is in many cases perfectly willing to embark in the laying out of a cemetery, with no advice other than a chat with the local real estate man. If perchance he realizes that he may need some additional advice in the matter, he expects that a few words of offhand advice in a general way will start off his cemetery and enable him to realize in a short time a profit that is in proportion to the difference in price between local

farm land and the value of Trinity churchyard in New York. In perhaps no other business is there such great necessity for starting right as in the making of a cemetery. The first expenditure in connection with the establishment of a cemetery should be for an expert report and plan made by an experienced cemetery planner after a personal study of the conditions. This should be made even before the land is bought, for the selection of the land is one of the most important considerations. No advice at long range can be of any value, and no attempt should ever be made to lay out a cemetery without this expert study and report.

Only after years of study and practical experience can the principles of successful cemetery management be learned, and the first and most important advice in establishing a new cemetery is: "Get a good plan."

For a Bureau of National Parks

A bill recently introduced into the lower house by Congressman William Kent, of California, should have the support of every individual and every organization in favor of a more systematic and business-like management of our national parks. It is especially desirable that the care and development of our great national playgrounds shall be conducted co-ordinately under a bureau solely devoted to that purpose. In the past, the management of our national parks has been left to officials subject to change with every change of administration. A bureau like the one proposed would soon become permanent, and men of the right sort would find in this important work worthy careers of great public value and service, and with great and lasting benefits to the parks and monuments under their charge and control. The bill, known as H. R. 8668, provides for the establishing in the Department of the Interior a service to be called the National Park Service, which shall be under the charge of a director appointed by the Secretary, with such assistants and other employees as the Secretary of the Interior shall deem necessary. The director shall, under the direction of the Secretary of the Interior, have the supervision,

management and control of the several national parks, national monuments, the Hot Springs Reservation in the state of Arkansas, and such other national parks, national monuments, and reservations of like character as may hereafter be authorized by Congress. It is further provided "that in the granting of leases and concessions and in the general management and development of said parks, monuments, and reservations no action unless specifically provided for by future enactments of Congress shall be detrimental to the fundamental object of these aforesaid parks, monuments and reservations, which object is to conserve the scenery and the natural and historic objects therein and to provide for the enjoyment of said scenery and objects by the public in any manner and by any means that will leave them unimpaired for the enjoyment of future generations. The fund derived from such sales, leases, permits and privileges shall be deposited in the Treasury as a general fund, to be expended by the director, under the supervision of the Secretary of the Interior.

Everyone interested in the more efficient management of our national parks should enlist the support of his senator and representative in securing the passage of the bill.

Motor Transportation in the Parks

Chicago has some forty miles of park drives in her city limits, and many of her citizens have never seen all of the boulevard and park system because the journey cannot conveniently be made without an automobile. There is at present under consideration in that city a proposition to establish a line of motor buses to traverse the entire boulevard and park system at a uniform and nominal fare. The Lincoln Park and South Park Boards have under consideration the offer of the Chicago Motor Bus Co. to establish a service in the parks and boulevards of the city. The rate is to be 10 cents for any distance, the buses are to be of the best grade, and the company has offered to pay for road upkeep, about a thousand dollars a mile estimated. The company is responsible and evidently is ready to accept all reasonable regulations. In return it wishes to be protected from irresponsible competition. Under fair regulation there is as much to be said in favor of a motorbus monopoly as a traction monopoly. The attorneys of the Park Board have suggested some legal obstacles, but the attitude of both boards ought to be one of fair-minded consideration and investigation. There are many considerations involved, but there is no doubt that a motor bus service, reasonable in price and

efficient in operation, is needed in Chicago, especially for the parks and boulevards. There is a very large class of people whose means do not permit them to maintain an automobile or patronize a taxi for a ride through the parks. On the other hand, they could afford so small an expenditure as the motor bus company proposes. By this service they will have the whole park and boulevard system at their command for the first time and the system will become much more available to a very much larger proportion of the population than it is now.

Every large city's resources of interest and entertainment should be given a more systematic and inclusive development. A good motor bus service will be attractive to visitors and especially helpful to those who cannot remain long and who do not care to pay for an individual motor. There is many a traveler who does not see a large city park system because he has not had the time, money or patience to do exactly what a motor bus park service will offer him at a cost not worth considering, expeditiously and with comfort. Let us make our parks and boulevards available to as many people as possible. The problem of the motor bus is one for every large city to consider.

BOUNDARY TREATMENT OF CEMETERIES

By Sid. J. Hare and S. Herbert Hare, Landscape Architects.



A PICTURESQUE BOUNDARY FENCE. "Dry" stone wall overgrown with vines and backed with a shrubbery border. These vines are mostly Hall's honeysuckle, which is nearly evergreen.

The boundary treatment of a cemetery is influenced by three factors: First is the primary and practical consideration of safety and protection; second is the question of seclusion and privacy, and lastly, of course, beauty can never be neglected either as regards the exterior or interior appearance of the modern cemetery. In any actual case it is necessary to consider all these requirements more or less simultaneously as they bear a close relation.

For purposes of control it is desirable to have all persons enter a cemetery at the properly designated gates. Easy entrance at other points invites trespassing and possibly desecration by those that do not intend to obey the rules. Therefore, it is essential that the enclosure, of whatever nature it is, shall be substantial and difficult to climb. A border of shrubbery alone is by no means sufficient, and a hedge, unless

of very strong, spiny branches, is not safe. If, however, it is desirable to have this effect of hedge or shrubbery, a sufficient protection can be supplied in the form of a woven wire fence, which will be hardly visible, especially if placed within foliage. Most hedges require attention to prevent interference from adjoining trees and shrubbery which would tend to prevent the full and compact growth. An uneven, thin, ragged hedge is worse than none at all.

Another way of utilizing a wire fence is as a support for vines. With the proper choice of varieties, continuation of flower, foliage and fruit effects can be secured for most of the season. In some portions of the country evergreen vines will supply winter foliage. The fence, of course, has



BORDER OF MOUNTAIN LAUREL BACKED BY EVERGREENS.

fence will make it almost impossible to climb. It is best to have the mesh of the fence small enough at the base to exclude rabbits. Woven wire was mentioned first, principally because it is the least expensive form of fence as regards first cost. Wrought iron fences are more expensive and also more substantial and permanent. Designed along the modern lines of simplicity, they are both practical and have a dignified ornamental value which has brought them very much into favor. It is necessary in thinking of wrought iron to relieve our mind of the hideous over-ornamental work of some years ago. The relation between this work and the recent productions is rather distant.

The use of wood in a cemetery fence is hardly worth serious discussion, as it is too temporary for the expense involved in securing a satisfactory design.

Masonry of various kinds is well adapted for use as an enclosing wall. The ma-



TERMINUS OF A PANELLED BRICK WALL SUITABLE FOR CEMETERY ENCLOSURE.

to be substantial enough to withstand the rather severe use that the vines impose upon it. In the first place, it should be heavily galvanized, as the moisture retained by the foliage will quickly rust ordinary wire. A well-made galvanized fence should last fifteen to twenty years, or even longer. The horizontal strands should be of coiled spring wire in order to be always tight under all degrees of temperature, and strong enough to carry the weight and pull of the vines, which become quite an item in the course of a decade. Substantial and permanent posts which will outlast the fence are necessary. Reinforced concrete is the most lasting material. Several strands of barbed wires on brackets at the top of the



WELL DESIGNED WROUGHT IRON FENCE.

Too expensive and elaborate for general border use, but suitable to go near entrance.



CAST CONCRETE POST AND PANEL FENCE, WITH CLIMBING ROSES. For cemetery purposes this fence should set closer to the ground.

terial locally obtainable should determine the type of wall to be built. Stone which comes in rather flat strata can be easily broken into rectangular forms and will make a strong and picturesque wall if laid without mortar, which is generally known as a "dry wall." When overgrown with vines it seems to merge into the surrounding natural landscape in a most satisfactory way. The addition of a few barbed wires at the top between posts set in or behind the fence will help support the vines, extend the height, and make it more effective as a barrier.

Stone not suitable for a dry wall can be



CLIPPED HEDGE WITH HIGH BORDER PLANTING BEHIND.



COMBINATION OF LOW WALL, WROUGHT IRON FENCE AND HEDGE.

laid in mortar as cheaply or perhaps more cheaply than a well-laid dry wall, unless it is desired to have the joints dressed and squared with considerable care, which is seldom the case in natural surroundings. The well-known boulder wall at Swan Point Cemetery, Providence, R. I., is an excellent example of the ingenious use of material at hand. In this case it formed a means of disposing of boulders taken from the grave sections which would otherwise have been a burden. The boulders were piled rather loosely with large pockets of earth which were utilized for the growth of plants and vines.

Brick, especially in the newer colors and rough surfaces, is well suited to boundary walls, or for piers in a wrought iron fence. A combination of low brick or stone wall, topped by a wrought iron fence between occasional piers, is another satisfactory combination.



BOUNDARY WALL OF GRACELAND CEMETERY, CHICAGO. As seen from the street; built back of property line to allow space for trees, shrubs and vines.



BOUNDARY OF LOWELL CEMETERY, LOWELL, MASS. Showing portion of new fence work between cemetery and Shedd playground.

Concrete is a material useful in various ways. It is still in the stage of development and new uses are being discovered each day. It can be cast into a solid wall or into thin sections between piers, allowing expansion joints at the piers. Another use is to cast in the shop standard reinforced units from which a fence can be constructed. An illustration of a graceful and beautiful concrete picket fence cast in sections in a shop and then set upon the ground is shown here.

Without regard to the special form of

fence or wall used, a border plantation of trees, shrubs and evergreens is usually desirable in addition, if for no other reason than beauty. As a general rule, complete seclusion from the adjoining property or public highway is desirable. There may be exceptions to this in the case of specially pleasing views or vistas into or out of the property. A few choice glimpses from the highway into the park-like grounds may be of considerable advertising value to the cemetery, but for the most part the feeling within the grounds for those attending fu-

nerals or visiting graves should be one of quiet, almost sacred seclusion from the daily busy life of the outside world.

Nothing will so completely exclude the view and absorb the sound and dirt of the surrounding streets as a screen of foliage. Many readers may recall how effectively the elevated railroad was screened along the border of Graceland Cemetery, Chicago. The possibility of excluding surrounding noise and scenery is perhaps best shown in portions of Central Park, New York City.

UNIQUE RUINS IN MESA VERDE NATIONAL PARK

The report just submitted to the Secretary of the Interior by Dr. J. Walter Fewkes, of the Smithsonian Institution, who conducted the excavations of last summer in the Mesa Verde National Park, shows that the ruins then unearthed were of extraordinary interest. In fact, Sun

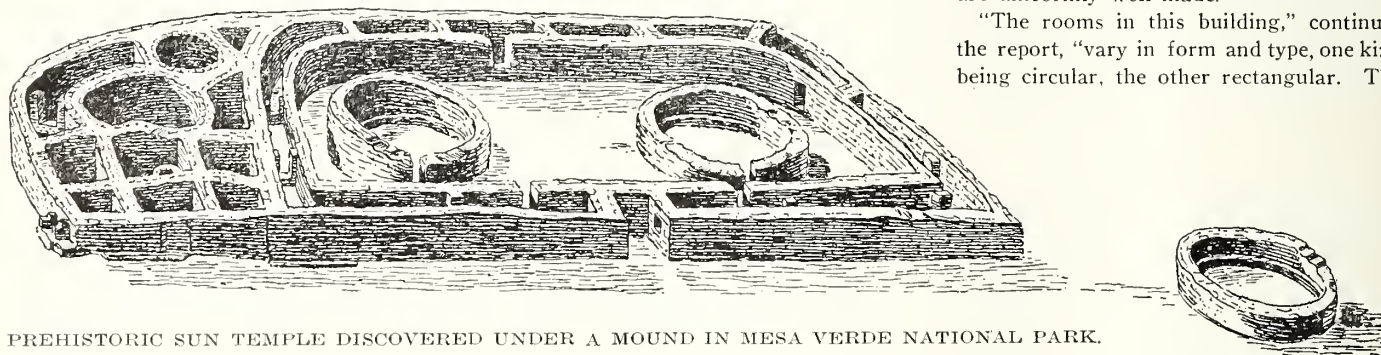
All his hopes, Dr. Fewkes reports, were realized. "The results of three months' work," he says, "were more striking than had been expected.

"There was brought to light a type of ruin hitherto unknown in the park, and, as was well expressed by a visitor, the build-

annex. The south wall, which is straight and includes both the original building and the annex, is 121.7 feet long. The ruin is 64 feet wide.

There are about 1,000 feet of walls in the whole building. These walls average 4 feet in thickness, and are double, inclosing a central core of rubble and adobe. They are uniformly well made.

"The rooms in this building," continues the report, "vary in form and type, one kind being circular, the other rectangular. The



PREHISTORIC SUN TEMPLE DISCOVERED UNDER A MOUND IN MESA VERDE NATIONAL PARK.

Temple, as it has been named, is an altogether new and mysterious type of ruin, the discovery of which Dr. Fewkes calls a service to American archaeology.

The mound which Dr. Fewkes, at the request of the Interior Department, opened last summer lay on a point of the Mesa directly across Cliff Canyon, and opposite the celebrated prehistoric ruin known as Cliff Palace. Stones strewn on its surface had shown signs of having been worked artificially, indicating the character of the masonry of some ancient building undoubtedly buried below. Cedar or pinyon trees of great age grew upon the mound. Indications pointed to a building of large size. Dr. Fewkes had reported these facts as long ago as 1909 and it had become his great desire to penetrate the mystery.

During the prosecution of the work last summer nothing reached print, although a ruin of large size and unknown character was rapidly emerging and hundreds of national park tourists visited the spot and listened to Dr. Fewkes' camp-fire talks at night. During the autumn a few hints of the importance of the discovery became public; but the official report, here epitomized, contains the first definite information on the subject.

ing excavated shows the best masonry and is the most mysterious ruin yet discovered in a region rich in so many prehistoric remains. Although at first there was some doubt as to the use of this building, it was early recognized that it was not constructed for habitation, and it is now believed that it was intended for the performance of rites and ceremonies; the first of its type devoted to religious purposes yet recognized in the Southwest.

"The ruin was purposely constructed in a commanding situation in the neighborhood of large inhabited cliff houses. It sets somewhat back from the edge of the canyon, but near enough to present a marked object from all sides, especially the neighboring mesas. It must have presented an imposing appearance rising on top of a point high above inaccessible, perpendicular cliffs. No better place could have been chosen for a religious building in which the inhabitants of many cliff dwellings could gather and together perform their great ceremonial dramas."

The ruin has the form of the letter D. The building is in two sections, the larger of which, taken separately, is also D-shaped. This is considered the original building. The addition enlarging it is regarded as an

former are identified as kivas, or sacred rooms; the purpose of the latter is unknown. There are two circular rooms or kivas of about equal size in the original building, and a third occupies the center of the annex.

"There are 23 other rooms, 14 of which are in the original building, the walls of which are parallel; several curved, others straight. Three of the former had entrances from the roofs, four had lateral doors into the plaza, and the remainder are arranged in two series, the members of which communicate with each other. None of the rooms of the annex have lateral doorways.

"Not a single room, either of circular or rectangular form, shows any signs of plastering, but all points between stones, from the bottom to the top, are carefully pointed with adobe and generally chinked with stones. The impression of human fingers and palms of small hands of the workmen, probably women, still show in the clay mortar.

"The principle of the arch was unknown, but the corners were practically perpendicular, implying the use of a plumb bob. The curved walls are among the best in the ruin."

Outside the main building is a circular building with walls 4 feet thick which closely resembles the base of a tower. This was probably intended, like the "tower" in Cliff Palace, for ceremonial rites.

One of the most interesting features is the embellishment of the walls by geometrical figures cut in their surfaces—a rare form of decoration. Several stones with incised figures were set in the walls. Generally, the designs are geometric, but there are others, including the figure of a ladder leaning against a wall, turkey tracks, and the conventional sign for flowing water.

"The importance of these incised figures on stones set in walls," says the report, "lies in the fact that they seem to indicate an advance in architectural decoration not represented in other prehistoric buildings in the Southwest. They may be regarded as first steps in mural sculpture, a form of decoration that reached such an advanced stage in old ruins in Mexico and Central America. Each figure may have had a special meaning or symbolic significance connected with the room in which it occurs, but they seem to me to have been introduced rather for ornament or decorative effect.

"Their existence would certainly imply that it was not intended to plaster the walls over them, and I think there is a reason to believe they were cut on the stones before they were laid. One or two similarly in-

cised stones have been reported from walls of the Mesa Verde cliff houses, where, however, their existence is very rare.

"The fine masonry, the decorated stones that occur in it, and the unity of plan stamp Sun Temple as the highest example of Mesa Verde architecture."

The walls were constructed of the sandstone of the neighborhood. Many stone hammers and pecking stones were found in the neighborhood.

One of the most remarkable features of the structure is a stone fossil set in the outer wall near the southwest corner. Mr. F. H. Knowlton, of the United States National Museum, has identified this as the fossil leaf of a palm tree of the Cretaceous epoch. The point is that the rayed leaf resembled the sun, and the ancient races were sun worshipers. A natural object resembling the sun would powerfully affect a primitive mind.

"At all events," says Dr. Fewkes, "they have partially inclosed this emblem with walls in such a way as to inclose the figure on three sides, leaving the inclosure open on the fourth or west side. There can be no doubt that the walled inclosure was a shrine and the figure in it may be a key to the purpose of the building. The shape of the figure on the rock suggests a symbol of the sun, and if this suggestion be correct, there can hardly be a doubt that solar rites were performed about it."

Naturally the two first questions asked about this structure concern its age and its uses. Both are mysteries.

"It is impossible," says the report, "to tell when Sun Temple was begun or how long it took for its construction or when it was deserted.

"We have, however, knowledge of the lapse of time because the mound had accumulated enough soil on its surface to support the growth of large trees. Near the summit of the highest wall in the annex there grew a juniper or red cedar of great antiquity, alive and vigorous when I began work. A section of this tree at that point was found by Mr. Gordon Parker, supervisor of Montezuma National Forest, to have 360 annual rings; its heart is decayed, but its size suggests other rings, and that a few more years can be added to its age.

"It is not improbable that this tree began to grow on the top of the Sun Temple mound shortly after the year 1540, when Coronado first entered New Mexico, but how great an interval elapsed during which the walls fell to form the mound in which it grew and how much earlier the foundations of the ruined walls were laid no one can tell. A conservative guess of 250 years is allowable for the interval between construction and the time the cedar began to sprout, thus carrying the antiquity of Sun Temple back to about 1300 A. D."

WHAT THE NATIONAL PARKS NEED

An address before the American Civic Association by R. B. Marshall, General Superintendent, National Parks, Washington, D. C.

Chairman: I think you will know that our youngest, our newest and one of our most beautiful national parks owes its development mostly to the work of Enos Mills—the Rocky Mountain National Park, Colorado, newest in years, not in attractiveness and scenery.

Some years ago I was making an interesting trip in an untraveled and nearly unknown part of the Yosemite National Park. It became necessary for me and my neighbor to soon reach the railroad and get out of that wonderland. This man and I started, and with us two soldiers to give us protection. We had been traveling quite a number of miles when my friend said, "We'll save three miles if we go this way," and turned aside. The soldiers didn't like the idea and they demurred, but we kept on in what appeared to be a trackless way, but which to this man was as well known as if he had traveled it but yesterday, yet I know positively that he had not; he had not been that way for a long time. That man knew all about the Yosemite National Park because he had topographically surveyed it years ago. It is a very great joy to the American Civic Association that that man has been made the superintendent of the national parks,

many of which he has topographically mapped and all of which he had visited, studied and loves.

It is right hard to introduce him as Mr. Robert Bradford Marshall, for it is a great deal easier for me to say that here's Bob Marshall, who is going to talk to you about the national parks. (Applause.)

Mr. Marshall: Mr. President, ladies and gentlemen: After the glowing remarks of Mr. McFarland—and I'll just call him "Mack" for short—and having been preceded by the real tenderfoot of the mountains, Mr. Grosvenor, and by "Mutt" (Enos Mills), my side partner on many trips, I don't know just what to say.

It is a peculiar position that I find myself in. Recently I left a work that I had been engaged in for twenty-five years, that of topographic surveying in the United States Geological Survey, and I loved it with all my life. It isn't that I love that work less, as that work took me into the national parks, but I love the national parks more. There are too many things to tell you in these few short moments that I have before me; in fact, I do not know that it would be very safe to talk too much about the details of what I think have to be done—you might think me egotistical.

It would take too long, anyway. But really, I want to assure you that I have the biggest job in the United States. (Laughter and applause.) There is no doubt about it; I am the entertainer of a hundred million people and more, and that is some job. (Laughter.) And I am not so sure that it isn't the most popular job in the United States. I am assured, for instance, that I have two million ladies ready to vote for me now (Applause) and have six thousand members of the American Civic Association (if there are not that many, there ought to be) ready to back me up, and every state in the Union that has a national park in it is ready to vote for Marshall, and I am sure that no candidate can present himself with such credentials next June at either St. Louis or Chicago. (Laughter.)

We have many things to do, and I'm old and I'm young; and to do these many things we must have assistance all the way along the line. We must have legislation. Congress in its wisdom has imposed upon the Secretary of the Interior great responsibilities to take care of the national parks for the benefit and enjoyment of the people. And yet somehow it has not given the Secretary the authority to do what they

and the people want him to do. It is a strange position, but I know, with all of the millions and millions of people talking about it and all shouting about it, that Congress is going to listen and do what they want—this is what they are there for, and they are ready and willing to do what the people want. And we must have money—unfortunately we cannot do much without money. You see, it depends entirely upon what the people want and what Congress will give.

We must have accommodations—hotels, camps and roads in and about the parks, and we've got to have hotels and meals for the poor and the rich, and particularly the poor, because they need special care more than the rich. (Applause.) But if a person happens to come to one of the parks and wants to spend \$100 a day for fun's sake, let him spend it. But if a fellow comes and has only 50 cents to spend a day, let's have him stay two days if we can, for the fellow needs it. (Applause.)

We want to improve the parks, and they have to be; and we want to call on our friends, like Frederick Law Olmsted, "Mack," and Mark Daniels, and other generous ones, and we want to devise and plan schemes for hotels and trails, and roads, and chalets and whatnots, so that they will be of service in every possible way and yet not scare the scenery. (Laughter.)

One of the most important things to be considered in the national parks from my point of view is the personnel of the corps. And what I am going to say is in no way a criticism upon the present corps. They

are good men, they are honest, they are doing the best they know how—but they don't know how. They are willing to learn and they shall learn. I feel that we should have a corps in the national parks, intelligent, well-posted teachers of nature's workings, as enthusiastic about their work as it is possible to get them, as enthusiastic, for instance, as I am; men that your wife and children would enjoy because of their associations and training. It is all right to have a good, strong, husky man there, whose only duty is—or thinks that is his only duty—to move a rock out of the trail or to cut the brush; but that is not all. We want a man who is going to stay always in the service and commune with the birds, the animals, and the trees and flowers, the streams and fish, and learn the reason for it all, so that when the visitor stays with the ranger who talks of these wonderful things of nature for a few days and the spirit of it all gets hold of him, that they will want to come again to stay.

I can never think of national parks or speak of them even to my own self without recalling that wonderful man, John Muir. I knew him intimately for some twenty years, and can assure you that there wasn't a thing in the great outdoors, with no exception, that he could not take in hand or look at, point out, show you, and explain its reason for being in the most fascinating way. He knew nature as no one else did, and, with his God, he worshipped it. His affection for the commonplace little pine needle was as genuine as that for the most beautiful flower or the grandest tree, and the little flakes of snow

and the little crumbs of granite were each to him real life, and each had a personality worthy of his wonderful mind's attention, and he talked and wrote of them as he did of the ousel—the squirrel—made real persons of them, and they talked and lived with him and were a part of his life as was his own flesh and blood. If we had such guides as John Muir, all of those one hundred million people would be running simultaneously into the parks; they would be almost running over each other to hear the story of nature's workings. Men with the knowledge and appreciation of nature in their souls are the kind of rangers we want, and we shall get them.

I do not want to take up too much time. As I say, I am a novice at the game. I have only been in the national park service for fifteen days on this wonderful work. I have neither a desk nor a chair, nor a room, but I am roaming around in the Interior Department building, picking up anything I can get hold of. Secretary Lake and Mr. Stephen T. Mather (and I'll just call him "Steve," as I did on his wonderful mountain trip through the greater Sequoia National Park, California, last August) have placed upon me the greatest responsibility. I am not afraid of it (Applause) because I know I have these one hundred millions of people back of me, and I am going to co-operate with them all. There is not going to be any quibbling one way or the other; it is going to be the fullest sense of co-operation, and with that co-operation I am going to succeed, and I shall succeed. (Applause.)

CONVENTION of AMERICAN ACADEMY of ARBORISTS

The American Academy of Arborists held its first annual convention at Newark, N. J. January 8. The organization was the guest of the Newark Shade Tree Commission, and the advanced work of this organization, which has been previously described in *PARK AND CEMETERY*, was the subject of interesting study in addition to the matters brought out in a number of fine papers and addresses.

The meeting was very successful and the Academy promises to be of great service to the owner of estates, to park men and professional arboriculturists in setting up a high standard of professional arboriculture in the country. The next meeting will be July 15 at the Zoological Park in New York City.

President Frank L. Driver, of the Newark Shade Tree Commission, welcomed the members, as follows:

It gives me pleasure to express to you on behalf of the Shade Tree Commission the first word of Public Welcome to our City. I am glad to start the ball of your first Convention a-rolling. As president of the Newark Shade Tree Commission I welcome you among us and wish you a profitable day in our midst. We have an efficient organization in this city for the protection and maintenance of

our trees. We try to do our work so well that the work will become educational, but on the other hand we do not fail to keep up the education of our citizenry to the advantage of well-shaded streets and well-kept trees. Later on in the day we will have an opportunity to show you the results of our labors. Our Mayor, Mr. Raymond, was to be here this morning but unfortunately he has been taken sick and cannot address you. But in his place and as his representative we have with us Mr. Spaulding Frazer, the City Counsel.

Mr. Spaulding Frazer, City Counsel, said:

I very much regret that the Mayor is unable to be present. Yours is the first of some fifty National Conventions we expect to hold in this City this year, which is by the way the 250th birthday of our City. It is a great pleasure to us that yours should be the first of these conventions and that you honor us by spending your first birthday celebration as an organization in our midst. We are delighted to have you here. The work that you gentlemen are doing we have seen evidenced in the work that has been carried on here under our Shade Tree Commission which Commissioner Driver has already (not altogether modestly) been praising. But while the Shade Tree Commissioners come and go, we have had for over ten years with us now as an actual and tangible executive, the secretary of that Commission, Mr. Carl Bannwart, and it is due to his services of that Commission that the work to a very great extent has been so successful. And when we see his associates come to Newark, we are always glad to say, "More strength to your elbow!" We hope you will find our parks interesting, that you will feel when you leave here after your Convention that Newark has

treated you right well so that you will be glad to come back again.

President Herman W. Merkel responded for the association as follows:

We cannot claim credit for adding any material wealth in dollars and cents to the city, but we do add a measure of beautification and comfort and wealth to the cities and towns where it is our privilege to labor. When a great industrial city like Newark pauses in its commerce and manufacture to devote a portion of its resources for the beautification of the community by means of shade trees it is a sign of the times. It becomes a shining example to the other cities. Newark has done all that any city can do in the matter of shade trees. You have planted a larger mileage of streets to shade trees than any other city in the last ten years, you have standardized the work of maintenance and control to a high point of efficiency, and you have educated the young citizens in the schools to the value and needs of trees. For these reasons we came to Newark for our first Convention.

The objects of our Academy are to improve the public and private service in the matter of its trees. When the great work of the conservation of our city shade trees and their protection were first advocated it became apparent that we had here a new means of livelihood and occupation. Unfortunately for them, the poor neglected trees were rushed upon and there soon appeared the new profession of "tree surgery." And great are the conscienceless crimes which have been committed against trees and unsuspecting individuals by these surgeons. At the same time a number of men scientifically trained began to struggle for the better-

ment of the trees. As a means of upholding the highest professional standards the American Academy of Arborists was formed. It is our aim to maintain the highest professional standards. We invite men of thorough technical training to unite with us in this worthy endeavor. I thank you again for your welcome and I thank the City of Newark, especially the Shade Tree Commission and its Secretary and Forester for the good work they have done, but also for the manner in which they have pointed out the way for a better city and for a more loyal citizenship.

The following program of addresses and entertainment was carried out:

Paper—"The Ministry of Trees," Secretary Carl Bannwart, Newark Shade Tree Commission.

Paper—"The Tree Fakir," Hermann W. Merkel, Chief Forester New York Zoological Park.

New Business—Discussions.

1 p.m.—Luncheon. Host, President Augustus V. Hamburg, Newark Board of Trade.

Inspection of arboricultural work in the City of Newark under the guidance of Messrs. Carl Bannwart and James H. Walker, Secretary and Forester, respectively, of the Shade Tree Commission.

5 p.m.—Meeting at the City Hall.

Address—"The Training of the Professional Arboriculturist," Prof. J. W. Toumey, Director Yale University Forest School.

Paper—"Arboriculture as a Profession," J. J. Levison, M. F., Forester, Brooklyn Park Department.

Paper—"Fungus Problems of Interest to Arborists," R. Brooke Maxwell, Forester, Baltimore, Md.

6:30 p.m.—Banquet. Host, Newark Shade Tree Commission. President Frank L. Driver presiding.

Addresses by Commissioner Louis V. Aronson, Commissioner Charles G. Titsworth, Mr. Augustus V. Hamburg, President of the Board of Trade.

The officers were all re-elected, as follows:

President—Hermann W. Merkel, Chief Forester, Zoological Park, New York City.

Vice-Presidents—William W. Colton, Forest Commissioner, West Newton, Mass.; R. B. Maxwell, City Forester, Baltimore, Md.

Secretary—J. J. Levison, Arboriculturist Park Department, Brooklyn, N. Y.

Board of Directors—James H. Walker, City Forester, Newark, N. J.; George A. Cromie, City Forester, New Haven, Conn.; Harold J. Neal, City Forester, Worcester, Mass.

Following is a list of members of the Academy:

Fellows—Herman W. Merkel, Chief Forester, New York Zoological Park, Bronx, N. Y. C.; Prof. J. W. Toumey, Director Yale University Forest School; William W. Colton, Forest Commissioner, West Newton, Mass.; J. J. Levison, Arboriculturist, Park Department, Brooklyn, N. Y.; Harold J. Neal, City Forester, Worcester, Mass.; R. B. Maxwell, City Forester, Baltimore, Md.; Geo. A. Cromie, City Forester, New Haven, Conn.; James H. Walker, City Forester, Newark, N. J.; H. B. Filer, City Forester, Buffalo, N. Y.; A. T. Hastings, City Forester, Jersey City, N. J.; Geo. H. Hollister, Assistant Superintendent of Parks, Park Department, Hartford, Conn.; Dr. George Stone, Amherst University, Amherst, Mass.; Ernest F. Brauntun, City Forester, Los Angeles, Cal.; William J. Coleman, Forester Shade Tree Commission, Newark, N. J.; Albert R. Robson, Forester, Bronx Parkway Commission, Penn Ave., Chestwood, N. Y.; Allan Oakley Smith, City Forester, 70 Valentine St., Mt. Vernon, N. Y.; John A. Anderson, Forester and Secretary Shade Tree Commission, Montclair, N. J.; Harry J. Mueller, City Forester Harrisburg, Pa.

Honorary Member—Carl Bannwart, Secretary Shade Tree Commission, Newark, N. J.

change the boundaries of the park. In 1909 he was sent to Hawaii to inaugurate topographical surveys.

Such a career fits such a man pre-eminently for dealing with the technical questions constantly arising in the practical management of a scattered scenic wilderness involving highly diversified conditions. He is a man of much personal force, quiet, sure, and convincing. He is a prompt executive and knows mountain men.

Upon the threshold of the important development which necessarily must follow the people's "discovery" last summer of our national parks, Secretary Lane was fortunate in having at his disposal a practical executive so ably fitted for the big task.

THE COVER ILLUSTRATION.

The main entrance to Cedar Grove Cemetery, Flushing, Long Island, is illustrated on the front cover of this issue.

The illustration shows the double drive gates, on either side of which is a walk gate. These gates, as well as the fence, are of wrought iron of a particularly pleasing design that harmonizes nicely with the general landscape effect. There is a broad macadamized approach to the main gate entrance, the piers of which are of natural finish Barre granite, with well balanced caps and bases of the same material.

A better idea of the detail and symmetrical proportions of the wrought iron work will be obtained from the following description of the fence and gates, which were built by The Stewart Iron Works Co., Cincinnati, Ohio. The double drive gates are 16 feet wide and 8½ feet high in center, made of ¾-inch square pickets carried by four steel channel rails heavily framed, with 2x1¼-inch hinge and strike bars, braced as shown, and fitted with improved brass flat tumbler locks. Walk gates are of the same pattern and similarly built. They are 4 feet wide. The fence is 7 feet 6 inches high, of the same design as gates, with ¾-inch square forged tipped pickets spaced 6 inches apart, with short 18-inch pickets spaced between the regular pickets at the bottom, all carried by a set of four patent "three-ribbed" rails, the same as the gates.

In carrying out the wishes of the owners, the central idea of rigidity of construction and simplicity of design was maintained, and the severity very nicely relieved by beautiful panel posts, spaced at regular intervals.

The necessary protection to a cemetery is quite as important as the beautifying of the grounds. One is dependent on the other. Both are involved in a suitable enclosure.

THE OBITUARY RECORD.

Gordon Stuart Roy, twin son of Mr. and Mrs. W. Ormiston Roy, superintendent of Mt. Royal Cemetery, Montreal, died January 13 at the Montreal General Hospital, at the age of 14 years.

NEW SUPERINTENDENT OF NATIONAL PARKS.

The appointment of Robert Bradford Marshall, chief geographer of the United States Geological Survey, to the responsible position of Superintendent of National Parks, is an illustration of the progressive spirit of the new administration of the national parks. This places in administrative charge a business man of ability in Mr. Stephen T. Mather, and in executive charge the man who personally surveyed the Yosemite and later, as chief geographer, superintended the surveying and map making of all the other national parks.

Mr. Marshall, who imbibed his first love of the wilderness from the wilderness itself, was for years the warm personal friend and sympathetic disciple of John Muir. He shared Muir's devotion to mountain tops and became the earnest student and steadfast advocate of our na-

tional parks. It is certain that there is no one else so familiar with their history, their development, their topography, and their intimate practical conditions. His technical knowledge of woodcraft is unsurpassed.

Mr. Marshall, a Virginian by birth, entered the United States Geological Survey in 1889. As a topographer his record is extraordinary. He mapped 34 sheets in 15 years of this service. Much of this work was especially difficult in character, covering lofty mountain regions in the Sierra.

In 1907 he was appointed geographer in charge of the Pacific division. The year following he reorganized the topographical service and was placed in charge of the whole with the title of chief geographer.

In 1904 he was made a member of the Yosemite National Park Commission to

CEMETERY ROAD BUILDING WITH REFINED TAR

*By Philip P. Sharples, Chief Engineer,
Tarvia Department, Barrett Mfg. Co.*

Cemetery roads in their general aspects may be classed with park roads. In some respects, however, they differ radically. The same landscape tenets that apply to park roads apply also to cemetery roads. They should conform in character to their surroundings; they should be capable of upholding the traffic that goes upon them; they should be reasonable in cost of construction and in cost of upkeep.

The cemetery road must, however, be of a more refined character than the general park road. The proximity of buildings and of monuments and mausoleums of nicely finished stone makes it absolutely necessary that the cemetery road should present a neat and attractive surface, in proper harmony with its formal surroundings. A good surface of crushed stone meets these requirements better than any other discovered up to the present time, and it should be the aim of the cemetery road builder to obtain and retain this character of surface. The proper use of modern bituminous binders of a tar origin will enable him to do so if the properties of the materials are thoroughly understood and the methods of manipulating them known.

The use of gravel and even dirt roads and the oiling of dusty roads is permissible in park work, but should not be countenanced in cemetery work. The soft roads can be used in parts of the parks only frequented during dry summer weather and oiled surfaces may be countenanced on continuation of city streets through a park system. In cemetery work, on the other hand, roads must be built which will allow funerals to be held at any time of year. This requires a hard road which dries easily.

While the traffic on cemetery roads is relatively speaking light, they must be built to withstand occasional very heavy loads.

Monuments of all sizes and weights must be handled over the roads as occasion warrants. The cemetery road must, therefore, be better provided with foundations than the average park drive.

Cemetery roads, unlike park drives, are usually not provided with any reserved space for pedestrians, and it is necessary therefore that they be provided with a surface clean and non-soiling for foot traffic. There must be, therefore, no oily or sticky substances on the surface of the road. The refined tars lend themselves admirably to the solution of these problems.

Cemeteries with high gradients find an added incentive to the use of a bituminous binder. Drives with gradients of more than three per cent are subject to much surface wash at times of heavy rains. In the new construction work with bituminous binders this can be entirely eliminated.

One of the incidental advantages of roads bound or treated with refined tar is their freedom from weeds. The refined tar inhibits their growth to a large extent, especially if no dirt pockets are allowed to form on the surface of the tar-treated macadam where weed seeds can gain a foothold.

The first use of refined tar in cemetery work followed soon after the successful application of tarvia to park work. Like the park work on the Metropolitan Park system in Boston and the South Park system in Chicago, it was Tarvia A surface treatment of existing macadam roads. J. C. Scorgie, superintendent of Mt. Auburn Cemetery, of Cambridge, Mass., treated the entrance drive in 1907. The hot Tarvia A was broomed out on the surface and immediately coated with peastone rolled in while the tarvia was still warm. The original treatment is, for the most part, intact and has protected the driveway from

weather and wear while at all times presenting a pleasing appearance of clean peastone and an absence of weeds. Although this early use of Tarvia A was entirely successful, subsequent work has been mainly in the direction of permanent construction work with Tarvia X used as a binder in building new macadam roads. Every year sees an increase in the area, and at the same time, owing to increasing skill on the part of the employees and owing to the use of improved apparatus, each year's job is more satisfactory than the last.

Other cemeteries in the vicinity of Boston followed along the same line. C. P. Harding, of the Evergreen Cemetery, has gone through the same experience, beginning in 1909.

In Chicago, Graceland Cemetery under Mr. Tilton's direction began the use of Tarvia A in 1906. Like the work in Mt. Auburn, the surface treatment soon led to more permanent forms of construction and now fully four and a half miles of main roads are built with Tarvia X. Work in the past two years has been greatly facilitated by auto-truck deliveries. It has been found practical to surface treat some of the older driveways with Tarvia B put on by machine. This cold application has proved much cheaper than the previous hot application of Tarvia A and for some classes of roads has proved entirely satisfactory.

Other Chicago cemeteries have had equal success. Thomas Wallis, of Rosehill, began construction with Tarvia X in 1909 and has used Tarvia B for maintenance. Edw. G. Carter, of Oakwoods, has used Tarvia X in construction work since 1911. James Y. Craig, of Forest Lawn, Omaha, was another pioneer in construction work and began work in 1908.

In Canada, Mt. Pleasant Cemetery, W. H. Foord, superintendent, was the pioneer and began work in 1909. His old work is still in excellent shape, but the area added each year shows the constant improvement due to increasing skill and knowledge of the materials.

The use of Tarvia X has also made it possible to use road metals not otherwise available. In 1903, E. S. Chapman, of Mt. Pleasant Cemetery, Arlington, Mass., built a small area of road, using Tarvia X as a binder on a gravel containing sizes from pea gravel to 2½-inch pebbles. This first experiment, crude in its way, led to further developments, and now very satisfactory roads are made from gravel obtained from the cemetery's own pits and sized by screening.

In other places, as in the Lakewood Cemetery, under A. W. Hobert, a crushed



TARVIATED ROAD IN LAKEWOOD CEMETERY, MINNEAPOLIS, MINN.

gravel has been substituted for the more expensive granite previously used. The entrance driveway was constructed this year and is a perfect piece of tarvia road construction.

Mr. Goebel, of Oak Hill, Grand Rapids, has tried some successful experiments resurfacing with pea gravel and Tarvia A over gravel roads. This work, while not to be recommended as a general practice, has given excellent results at Oak Hill. The gravel subsoil has made the roads particularly well drained and stable during wet and frosty weather.

In adapting tarvia to cemetery work, certain precautions must be taken to insure satisfactory work. All edgings, steps, monuments or sides of buildings exposed to tarvia splatterings must be carefully covered with old canvas or building paper before the work begins. A little forethought in this way saves expensive cleaning.

Grass edging is easily protected by a plank provided with a rope at either end and moved along as the work progresses. When the tarvia is melted in kettles, care should be taken to see that they are so placed that the heat will not affect the shrubbery or trees. Care should also be exercised not to let the material become too hot, as the production of yellow fumes is detrimental to some tender forms of vegetation. Wherever possible, tank wagons equipped with pressure spray should be employed, as better results can be obtained and a more cleanly handling of the tarvia is possible.

The methods to be pursued in constructing a successful penetration tarvia macadam have been recently so thoroughly described in an article by George D. Steele, in "Better Roads and Streets," June, 1915, that they need not be gone into here. Suffice it to say that each step must be carefully watched and exact uniformity in



ROAD BUILT WITH TARVIA "X" IN MT. PLEASANT CEMETERY, TORONTO.

stone, in laying and in application of tarvia must be secured in order to obtain the best results. Dirty spots in the stone or local excess of refined tar are sure to show in the completed road.

Particular attention must be paid to the sizing of stone in cemetery roads to conform to the traffic requirements and landscape effects. As a general rule, the stone sizing should be smaller than for town roads. At the same time extreme care should be exercised to obtain clean stone in order that the penetration of the refined tar should not be impeded. The seal coat of refined tar must be applied with great care in order not to obtain any local excess. The covering for the seal coat should be chosen with care, as it will form the finished surface of the road. If a permanent peastone surface effect is desired, a sprinkling of clean peastone should first be put on the seal. The stone should be in sufficient quantity to fill the surface voids with no excess. A roller should be used to

force them in. Peastone with the dust in should then be applied, with the object of filling the small voids in the peastone. No excess should be applied. The roller should then be used again. A final finishing coat of clean peastone is used. This method gives an attractive peastone surface, while at the same time providing a close waterproof surface beneath.

The maintenance of roads built or resurfaced with refined tar is a simple matter, but at the same time should never be neglected.

All openings should be repaired, following the original construction so far as possible. Surface treatment, either of hot applications or cold applications, should be renewed as soon as their condition warrants. Small breaks should be carefully patched in before the general treatment. By using a selection in the choice of covering, the original surface may be restored. Conscientious work along these lines should preserve the roads indefinitely.

GREAT HUDSON RIVER INTERSTATE PARK

The effort of public spirited citizens of New York and New Jersey to save the Palisades on the western shore of the lower Hudson has not only been a complete success but the effort has led to the organization of a great Hudson River Park which will extend when completed from Fort Lee Ferry northward along the river shore to Bear Mountain and running westward at one point to the Ramapo Mountains.

Over twelve years have elapsed since the battle was begun for the preservation of the Palisades, but the fight has been kept up with unabated ardor and the example of prominent men and women taking an interest in such a worthy public movement has been so wholesome that others have been moved to subscribe large sums in order that the most picturesque sections of the beautiful Hudson may be preserved for the

benefit of the public and made a playground for all time.

The inroads upon the Palisades twelve years ago by the quarry interests were so general that it was apparent to the most casual observer that if the beauties of these striking formations along the Hudson were to be preserved something of a radical nature would have to be done at once. The greater portion of Old Indian Head, north of Fort Lee bluff, had been blown asunder and other celebrated portions of the famous Palisades were rapidly disappearing.

The new Jersey State Federation of Women's Clubs began an energetic campaign for preservation. This resulted in the passage of a bill in 1899 empowering the governor to appoint a committee of five to report on the condition of the Palisades and to suggest some plan to prevent

their defacement. Such a committee was appointed.

In New York state interest in the work of halting the vandalism was very keen indeed. Among the most active of the friends of the Palisades were Andrew H. Green, "Father of Greater New York," and president of the Scenic and Historic Preservation Society, and Governor Theodore Roosevelt. The New York Legislature passed a bill similar to the one passed by New Jersey and Governor Roosevelt appointed a strong committee which went right to work. The joint commission decided to report in favor of the Legislature passing an act constituting a permanent Interstate Palisade Park Commission, with power to acquire and hold in each state whatever property was necessary along the Palisades for an interstate park, the inten-



FOOTPATH WHICH RUNS THE ENTIRE LENGTH OF THE PALISADES INTER-STATE PARK.

tion being to form a continuous park from Fort Lee, N. J., to Piermont, N. Y. Legislation to this end was approved by Governor Roosevelt March 22, 1900, and a bill with similar objects in view was introduced into the New Jersey Legislature, but met with opposition. The quarry interests made efforts to kill the measure, but opposition was finally overcome and the bill became a law. Thus the Interstate Park Commission came into existence. Governor Voorhees of New Jersey appointed Abram S. Hewitt, Edwin A. Stevens, Franklin W. Hopkins, William A. Linn and Abram DeRonde. New York's appointees were George W. Perkins, J. DuPratt White, Ralph Troutman, McNeely Stauffer and Nathan F. Barrett. The commission as thus constituted remained intact for nearly twelve years, when it became necessary to fill the vacancies caused by the deaths of Abram S. Hewitt and Ralph Troutman. The vacancies were filled by appointing William B. Dana and William H. Porter.

When the Interstate Park Commission began operations after organization, the Palisades were being removed at the rate of 12,000 cubic yards a day, and this at one quarry alone. The first serious business was to stop this blasting. An option was soon obtained from the leading offender. The price asked for the property was \$132,500, and \$10,000 was asked to secure the option. This amount was paid in December, 1900, and on Christmas eve of that year blasting was stopped at this quarry, which is considered a red letter day in the history of Palisades preservation. The balance of \$122,500 was contributed by the late J. P. Morgan.

State aid became more generous when it really appeared that the Palisades were to be saved. New Jersey appropriated \$500,000 for the purchase of land and New York \$400,000. By the end of 1903 at least 50 per cent of the land had been acquired, and in 1909 the acquisition had practically been completed. The total cost of land, riparian

rights and improvements up to June, 1909, was \$543,000.

These expenditures secured a Palisades Interstate Park fourteen miles in extent with a rocky shore frontage and fourteen miles of towering crags and cliff-topped woodland. The park extends from Fort Lee bluff northward along the Hudson river to Piermont creek. It includes the water rights, shore and face to the crest of the Palisades. Eleven and two-hundredths miles, or 58,285 feet, are in New Jersey, and 14,995 feet are in New York.

It was formerly out of the question for a pedestrian to walk along the entire shore line of the Palisades owing to the great masses of rocks here and there, and also by reason of the precipitous formations of the rocks themselves, especially along the northern stretches. The commission has, however, completed a picturesque and continuous pathway along the shore for seven

miles. The path descends and scales the many gulches which notch the river bank. It twists between great boulders and skirts close to precipices. This pathway penetrates thick forests and also traverses the beach. Anybody who is fond of variety and also likes walking could do well by taking up this path at Fort Lee and following it clear up to the end. The most beautiful scenery in the country would be passed. The bold cliffs of the Palisades would always be in sight, then the river with its wide expanse, and the busy city beyond at the start, and which gradually fades from view as the enthusiastic pedestrian pushes his way along the path made for him by the park builders.

Many city people are seeking the Palisade shorefront for camping purposes. During the summer months little villages of tents dot the river edge. The park authorities state that there has recently been a great increase in the number of permits asked for.

The commission has entire control over the park, and during the summer maintains a corps of marshals and a police patrol boat. All campers are required to secure permits from the commission, and the government of the camps is placed with the campers themselves by an ingenious code of regulations. Not a single arrest has yet been made thus far among the campers.

Very few people realize the fact that a large proportion of the territory included in what is now known as the Interstate Park is a pristine wilderness, even though it is close to the great City of New York. Here is virgin nature for you within easy reach of a good walker right from the heart of Greater New York. In the fourteen miles from the old dock at Fort Lee to the northern end of the rocks there are hardly a score of human habitations, not counting the camps of the summer colony



VIEW FROM THE NEW STATE BOULEVARD ON THE PARK PROPERTY. This boulevard skirts the Hudson for miles; St. Anthony's nose in the distance.

which dot the river shore in summer. Those who occupy the few houses still existing are principally quaint fishing people and old residents. The region abounds in wild flowers and those who enjoy picking these abundant blossoms of the woods and fields can have that pleasure in this beautiful park. The bald eagle and the fish-hawk are occasionally seen soaring above the tallest cliffs. Those who visit the Palisade region frequently will become familiar with the call of the hoot-owl, which frequents this region in great abundance. Foxes also abound there, so much so that the Borough of Englewood Cliffs, N. J., which includes adjacent territory, has been obliged to offer a reward for the coats of these reynards, as damaging inroads have been made upon the henneries. In addition to all these charms, there are numerous waterfalls, which are met with along the route from Fort Lee up to the northern limit of the park. One of the most beautiful of these streams is what is known as Greens brook, which falls over successive rocky terraces under the dense foliage, just below the village of Alpine, entirely hidden from the river so long as the leaves are on the trees.

The Henry Hudson drive is to be one of the productions which is to distinguish the future labors of the commission. This drive will curve gracefully around the headlands and by easy grades it will dip or rise in order to avoid the monotony of conformity to the water level. At one point it will tunnel through solid rock 200 feet above the river. When it reaches a point just south of Sneden's Landing the drive will rise easily and sweep westward through a depression at that point, connecting with the highway leading northward to the mag-

nificent state road through the Highlands. The plans provide for a boulevard similar in construction to the world-famous roads traversing the Swiss Alps and certainly sur-

broadened far beyond that of a park including the Palisades alone to one which should comprise a strip of territory including the most striking scenery in the High-



SCENE IN THE NEW HUDSON RIVER PARK.

passing all other highways in picturesque beauty. The commission has made it a rule in planning for this great new boulevard to rule out all artificialism and has resolved to do everything possible to preserve the natural beauties of the region through which the road is to pass.

While the work above outlined for the preservation of the Palisades was going forward to the fullest success, the project

lands of the Hudson. An impetus was given to this Hudson River Park plan by an offer from Mrs. Edward W. Harriman of 10,000 acres of land and \$1,000,000 to the Park Commission for future operations. The gift was dependent upon the appropriation by the state of New York of \$2,500,000 and the voters soon after approved of bonds to this amount being issued.

SOME PROBLEMS OF CEMETERY LAW

Succession to Title of Burial Lots.

Who controls the lots? I should like to know who controls the lots in the following case: A owned two lots, left no will and no children. His widow controlled it during her lifetime. They both have brothers and sisters living. The cemetery is incorporated under the statutes of Ohio relating to cemeteries. A's deed records: "Said association hereby sells and conveys xxx for burial purposes only," etc.—R. W. O.

After an examination of the Ohio statutes and authoritative court decisions, I am of the opinion that A's heirs have no interest in the lots, except to prevent disturbance of his remains, desecration of his grave, etc.; and that any further right of burial is limited to the widow's heirs, by virtue of her succession to ownership on A's death. But, of course, all rights are subject to reasonable limitations contained in the deed or in the constitution or by-laws of the association during A's lifetime.

It will be seen from the decisions reviewed below that, as a general rule, it is held by the courts that title to burial lots descends very much in the same way that title to ordinary real estate descends, and under that test and the laws of Ohio governing descent of property the heirs of A's widow would take to the exclusion of A's heirs, so far as the deed or the regulation permit burial of persons other than the immediate members of A's family.

In one of the latest cases bearing upon the subject—Anderson vs. Acheson, 132 Iowa Reports, 744—the Iowa Supreme Court decided that on death of a lot-owner the right to use the ground as a burial place passed to his heirs. But the following language of the opinion in that case shows that the ownership of a cemetery lot is not absolute in the sense that one may have absolute title to ordinary real estate:

"One who buys the privilege of burying his dead kinsmen or friends in the cemetery acquires no general right of property;

he acquires only the right to bury the dead, for he may not use the ground for any other purpose than such as connected with the right of sepulture. Beyond this title does not extend. He does not acquire, in strict sense, an ownership of the ground. All that he does acquire is the right to use the ground as a burial place."

Similar decisions have been handed down by the highest courts of other states, including New Hampshire, Maine, Pennsylvania and Kentucky.

In the case of Buffalo City Cemetery Association vs. City of Buffalo, 46 New York Reports, 503, the Court of Appeals of New York said that a cemetery lot owner acquires no such title "as makes him an owner in such sense as to exclude the general proprietorship of the association. The association remains the owner in general, and holds that relation to the public and to the government."

In the later case of Gardner vs. Swan Point Cemetery, 20 Rhode Island Reports, 646, the same court said:

"While a burial lot is regarded as property, in which title may in most cases descend to heirs (Field vs. City of Providence, 17 R. I. 803), it is evident that the tenure generally is not like that of ordinary real estate. We do not know what the charter provisions of the Swan Point Cemetery may be in regard to title of lots, but, in the cases of church-yards and cemeteries it has been held that, though a deed may run to a grantee, his heirs and assigns, he takes only an easement or right of burial, rather than an absolute title. * * * So long as the land is used for burial purposes he cannot exercise the same rights of ownership as in other real estate. Thus in Thompson vs. Hickey, 59 How. Pr. 434, it was held that a burial lot could not be mortgaged."

In several of the states there are special statutes governing the question of control of burial lots, and, of course, those statutes are controlling against what has been said above. For instance, in the case of Capen vs. Leach, 182 Massachusetts Reports, 175, a suit by one of four heirs jointly interested in a burial lot to restrain the others from interfering with a monument erected by her, the Supreme Judicial Court of Massachusetts said:

"Whether the cemetery is one the lots of which are governed by the statutory provisions now in force * * * does not appear. * * * If the cemetery is governed by such laws, the possession, care and control of the lot was not in the plaintiff alone, but was in common in the four heirs of whom she was one, and that statute provides the course to be followed in case the four do not agree as to the control of the lot. That course is a designation by the proper officials as to which of the heirs shall represent the lot in default of such a designation by the heirs themselves. If on the other hand the lot was not governed by the statute cited the plaintiff and the defendants are merely tenants in common. The placing upon the lot of a granite monument was an exclusive appropriation by the plaintiff of a part of the land to her own use which the defendants could treat as an ouster and they might remove the structure from the common land."

The laws of Minnesota specially provide how lots shall descend on death of the owner, as follows: "To the surviving spouse of decedent. If there be no surviving husband or wife, to the eldest living son. If there is no living son, to the eldest living daughter. If there is no son or daughter, to the youngest brother of decedent. If there be no living brother, to the youngest sister. If there be no surviving spouse, son, daughter, brother, or sister of decedent, then to the association in trust for the uses of a burial lot for the decedent and such of his relatives as the trustees shall deem proper. But such association, or, with its consent, any person to whom such

lot shall so descend, may grant and convey the same to any one of decedent's sons, daughters, brothers, sisters or grandchildren, and such grantee shall thereafter be deemed the owner thereof."

Another case in point is that of Wright vs. Hollywood Cemetery, 112 Georgia Reports, 884, wherein the Supreme Court of Georgia decided that title to a lot passed, on the owner's death, to his heirs at law; and that whoever had the right to bury the remains of an heir had the right to bury them in that lot.

In an interesting case passed upon by the Rhode Island Supreme Court—Derby vs. Derby, 4 Rhode Island Reports, 414—it was decided that power given in a will to dispose of decedent's property did not authorize the executor to sell a burial lot. The court said:

"This lot is held under a charter to the cemetery corporation, and under that charter, all lands of the corporation are dedicated to burial purposes. This lot was purchased by the testator for a burial place for his family. That he should deliberately intend that it should be sold and go into the hands of strangers, it is difficult to believe, without the most express direction. It is the more difficult in this case, as within it are deposited the remains of his former wife; and could he intend that those remains should be disturbed? He has devoted this lot to pious and charitable uses, as a place of burial for the members of his own family! Did he mean to revoke it? It is a violation of feelings of a sacred nature, this idea of making merchandise of the repose of the dead."

Inheritance of Burial Lots.

"If a person dies in New York making no mention of his burial lot in his will but wills all his real and personal estate to John Doe, does the lot go to John Doe under the will or to the heirs of the owner? Does the lot pass under a general devise?"—S. A., N. Y.

If the will, read as a whole, manifests an intention on the part of decedent to give his entire estate to a specified person, I am of the opinion that his burial lot would pass to the devisee as "real property." But in determining the question, consideration should be paid to the will as a whole and to surrounding circumstances. For instance, a will of all of testator's property to strangers in trust for heirs should not be construed as passing title to the burial lot, in the absence of a clearly expressed intention to that effect. But it is a fixed rule of law that a will should be construed, if it reasonably permits, as disposing of all of the testator's property, since it is only natural that when one makes a will he should intend to leave none of his property to descend as intestate property.

The rights of an owner of a burial lot fall within the definition of "real and personal property" and a devise of all such

property to a certain person should be interpreted as carrying title to the burial lot, although the courts would doubtless be more inclined to apply this rule in cases where the devisee is a relative of the testator.

A. L. H. STREET.

Cemeteries as Private Enterprises.

The courts will not give effect to contracts looking to the making of private profit out of cemeteries, where the statutes of the state indicate a legislative policy to exclude cemeteries from the realm of business venture, holds the Oklahoma Supreme Court in a recent case, Street vs. Fairlawn Cemetery Assn., 153 Pacific Reporter, 638.

The decision was handed down in a case where owners of land deeded it to a cemetery association at Oklahoma City under a contract whereby they were to share in the proceeds of burial lots sold out of the tract. But as will be seen from the following extract of the opinion, the holding is based upon the peculiar language of the Oklahoma statutes:

"While the defendant association is a private corporation, yet the purposes for which its incorporation was authorized and the uses to which its property is dedicated by the law are largely public. These public characteristics of a cemetery association are recognized in every legislative enactment with reference thereto. Such an association has power to take and hold real property 'for the sole use and purpose of a burial ground.' All its property and that of the individual lot owners in its cemetery is exempt from taxation, assessment, lien, attachment, levy and sale by execution, appropriation for streets and roads, etc., and, when its lots are acquired by individuals and the dead buried therein, they are forever inalienable. The association is impowered to make by-laws, to the end that all appliances and conveniences and benefits of a public and private cemetery may be obtained and secured!"

The court cites another section of the Oklahoma laws which provides that the proceeds arising from the sale of lots, after deducting all expenses of purchasing, inclosing, laying out and improving the ground, and of erecting buildings, shall be exclusively used in protecting and improving the cemetery and its appurtenances, and to paying the necessary expenses of the corporation, and "must not be appropriated to any purpose of profit to the corporation or its members."

Proceeding, the court says: "It is now, and has been at all times, the declared policy of the law in this jurisdiction that the affairs of a cemetery association shall not be conducted for the purpose of profit to the corporation or its members. Conceding the fact to be that the association in this case was at the time without means to purchase this land, which was regarded as necessary to its purposes, and that the contract entered into with plaintiffs afford-

ed a way of accomplishing the purpose to enlarge its grounds, and apparently provided future benefits without present expenditures, yet the entire transaction was contrary to the plain provisions of the statute. In whatever light this contract may be viewed, it provided profit for a member of the association. By its terms a 12.9-acre tract of land, costing \$200 an acre, was immediately platted into 1,060 lots, to be sold not 'below an average price of \$20 per lot for all lots platted,' and one-half of the proceeds thereof paid to the president of the corporation and his associates; thus at the time clearly contemplating an ultimate profit to them of at least \$8,000. Suffice it is to say, without further comment, that this court will not lend its aid to the enforcement of any contract violative of a statute or the established public policy of the state."

Apart from the point above discussed, the Oklahoma court adhered to the well-settled rule that as against a corporation and its stockholders a director is not entitled to make secret profits by indirect private dealings between himself and the corporation, as by selling land in which he is interested to the corporation, through a third party. The court adopts this rule:

"Courts hold the directors of a corpora-

tion to the strictest accountability. Conduct inconsistent with any duty is condemned. The fiduciary relation is so vital that directors are not only prohibited from making profit out of corporate contract, and from dealing with the corporation except upon the most open and on the fairest terms, but the rule of accountability is so strict that they are not permitted to anticipate the corporation in the acquisition of property reasonably necessary for carrying out the corporate purposes or conducting the corporate business."

Liability for Theft of Body from Lot.

The unusual claim was made in a case recently passed upon by the Appellate Division of the New York Supreme Court that the proprietors of a cemetery are liable for theft of a body by a third person, in the absence of employment of a watchman to prevent such thefts. (*Coleman vs. St. Michaels' Protestant Episcopal Church*, 155 New York Supplement, 1036.) But it will not be surprising to hear that the court decided that in the absence of a statute or contract requiring a watchman to be maintained there is no such liability.

Plaintiff claimed that his brother was interred in defendant's cemetery and that the body was stolen by unknown persons. In

answer to further claim that it was the duty of the defendant to guard the grave from theft, the court said:

"The complaint does not allege any contract by the defendant corporation to guard and protect the graves in its cemetery; the statute under which the defendant is incorporated and permitted to hold such lands and sell lots therefrom imposes no such duty; and the plaintiff's cause of action, if any, must rest upon some implied duty of any corporation selling lots for burial purposes to protect from theft the graves placed therein. The theft of a dead body is an unusual occurrence. Such a duty would involve a large expenditure of money in order to secure the graves from molestation by outsiders. Without contract obligation to protect these graves, and without statutory duty so to do, it is difficult to conceive any reasonable grounds from which such a duty can be implied. We are referred to no authority, and are able to find none, in which such duty has been declared to exist, and in our opinion so to hold would cast an unreasonable burden upon such corporation, entirely out of proportion to any compensation that they would be able to charge for the sale of burial lots."

THE TREATMENT OF INJURED TREES

By Henry C. Muskopf, Landscape Architect, Saint Louis, Missouri.

In order to ascertain how injured trees should be treated, we must first study the causes of the injury. These can be divided into two general classes, namely:

Injuries caused by nature and her agencies, and injuries caused by man.

Let us first consider some of nature's ways of injuring trees.

Climatic conditions, such as windstorms, cyclones and heavy snow or sleet, may cause a break, leaving the injured limb hanging or broken off in a ragged way. This, if not properly attended to, may cause permanent injury.

Injuries done by fungus may also come under this heading, but does not enter into consideration until some other transgression of nature has taken place. Many times fungus is blamed for destructive work, whereas in truth fungus carries on the breaking up of the already dead parts. I am convinced that if the tree is healthy it will throw off all attacks of fungus.

Insects cause considerable damage to tree growth and especially to fruit trees. The worst of these are the round and flat-headed apple-tree borers.

Smoke, soot and gases are also natural causes for tree degeneration.

The second cause of injuries to trees is one to be considered by the city man more than all agencies combined:

Tree butchers, amateurs, vandals, and carelessness.

The tree butcher heads the list, for most damage is done by him. The method generally used is for some man without knowledge of tree pruning to climb to a convenient height and begin promiscuous cutting, so as to give a round or umbrella shaped appearance, without thought as to the future. This kind of tree topping, however, is usually ordered by the owner, who also is lacking in the knowledge of tree pruning, and it is at times recommended by the thoughtless amateur.

The amateur prunes or heads in so as to get a dense growth. He has not studied and does not watch the results, and the disastrous results are often discernible years later.

The owner, happening to possess both knife and time, attacks a tree and slashes to his heart's content. Not so long ago I had occasion to plant and rearrange a large tract of ground for a wealthy manufacturer. I came upon him industriously slashing away with his knife. Now, this man, well versed generally, was ignorant on the question of pruning. I asked permission to give him a few simple rules about pruning. He questioned me and listened to what I had to say very atten-

tively. During the two succeeding years I never saw him use a knife again. However, some time after the incident quoted, I put a man to work on his orchard, which the previous owner had left in a neglected condition. I happened to be on another part of the grounds, where he found me and requested that I go to the orchard and see whether the man I put to work understood pruning. I then found that my little lecture started that man to properly study the question, and he was then well versed in it and recognized correct pruning when it was done.

I don't want to discourage home pruning, but wish to illustrate that even the educated may be, and usually are, ignorant of tree pruning, when a little thought and study so readily overcome this defect.

Vandalism: Many young boys use their pocketknife on the trees thoughtlessly and some purposely ripping off a long strip of bark. George Washington so effectively used his little hatchet.

Animals: People carelessly tying their horses to trees, or rabbits gnawing the bark off of young fruit trees. Both can be remedied with little forethought.

Burning: In order to save the cutting of high grass or weeds, people burn the lawn during the dry season and with it burn the bark of the trees, which on large

estates causes extensive damage, leading up to cavity work.

Most of the above injuries done by man can, and will, be avoided, if more thought is given to the subject by the owner. As long as man will be careless, trees will suffer, and remedies must be applied.

Now having determined the principal causes of the injury, I will take up the question of the remedy. This can be classified as follows:

Location of trees in planting; proper pruning; removing overabundance of wood and fruit; making proper cuts in removing dead or injured limbs, and treating decayed parts of trees.

Proper Planting: In cities the space usually allowed for planting between curb and walk is from two to five feet. As root growth is at least equal to top growth, this will mean that the greater portion of the tree roots are smothered by the walk and street paving. The principal object in making a pavement is to prevent moisture from penetrating. The remedy of this is to place the trees wherever possible on the inside of the walk line and at least five feet from it. This method of planting will in time afford more shade and better trees than the usual way of placing the trees in the most disadvantageous position for its future growth. One other evil this may remedy, and that is the constant trouble with the lineman. Telephone, telegraph and electric wires are a necessity, and if the trees were trained so as to have high branches, no conflict with the linemen need occur.

Proper Pruning: Wherever limbs rub, one or both should be removed. If trees are too dense, the weakest branches should be removed.

Never leave a stump.

Where a limb joins a branch a marked shoulder can be seen. If the limb or branch is to be removed the cut should be made through the shoulder and not two or more inches from it. Never cut a large limb and leave a twig to carry on future growth. A large limb must have leaf surface corresponding to the size of the limb. Therefore, always graduate the pruning so that the large limb will feed a branch which will be proportionately smaller and yet sufficiently large to carry a corresponding proportion of twigs and leaves.

The object of the flow of the sap is to go from the roots to the leaves, and without either the tree cannot live. If no leaves or an insufficient number of leaves are left on a limb that limb must die. This is true when a stump is left, and even though the bark breaks, puts forth new leaves, the proportion of leaf surface to the stump will be insufficient to carry on a proportional growth. The result will be that decay will set in in the center or heart of the branch or stump. This decay is fungus growth. The decay, once having gradually entered, affects the entire center of the limb and

gradually the outer bark will follow the decay of the central part. This decay does not stop at the junction of the next live and active limb, but continues its destructive work in the center or heart of that limb or trunk, as the case may be.

No harm would be done if the decay would stop at the shoulder or the live and active branch to which it is attached. But the decay grows and just as readily affects the next center of the trunk, continuing its destructive work down to the root system. The same is true whether man makes a wrong cut, nature breaks a limb, insects start the injury, or from any other conceivable cause.

Where a stump is noticed on a tree same should be removed and the cut should be made at the shoulder. If necessary to remove a large limb, the first cut should be made about six or eight inches from the shoulder, on the under side, and about one-third or one-half way through. Then the cut can be made on the upper side right at the shoulder, without fear of ripping the bark as the limb falls. All saw cuts will be rough, similar to what is generally known as rough lumber. As all work worth doing is worth doing well, and rough lumber will retain more moisture and decay more rapidly than dressed lumber, therefore dress the cut with plane and sandpaper. It will more readily absorb paint, seal the crevices and promote new growth. This is a vital point. I have seen many cuts made left in the rough and without any protection. Germs, disease and decay soon enter herein and spread, causing serious and sometimes unrepairable damage.

Many different opinions are expressed as to the kind of paint to be used. Generally speaking, I do not believe in mineral paints or any paint causing a burning sensation to the hands. No paint should come within at least one-fourth of an inch of the live wood. The paint is at best only intended for a temporary seal to prevent frost, moisture and foreign matter entering until nature can affect her perfect outer covering of bark. If a cut made at the shoulder shows that decay has entered, then cavity work is necessary. Whatever the cause of the cavity in the tree, whether from a stump, bruise or any other reason, the treatment should be as follows:

The decayed spot being located in a limb or trunk of a tree, the workman attacks the place with his maul, chisels and gouges. A gouge is a concave chisel. Some gouges should be beveled inside and some vice versa, so as to give the workman more range in small quarters. Only as little of the outside bark should be removed as is necessary for the workman to reach the decay in the center. At first the workman usually finds black, decayed wood finer than sawdust, which can be removed by hand. Not long ago one of our leading daily papers contained an article which,

condensed, meant that if a hose were inserted into the cavity all rotten wood would be washed out. Then cement should be used to plaster up the hole. Plaster up is right, according to some fillings which have come to my notice. The hole as well as a lot of surrounding bark was plastered up usually in a rough way and without knowledge that the bark is supposed to close over the cement and no thought given to finish or prevention of cement cracks, etc.

After the workman has removed the loose rot the wood becomes harder as he progresses. Borers, grubworms, ants and other insects will be noticed carrying on the unfinished work of fungus. All diseased wood must be removed until the last vista of decay is gone and good, sound wood is seen everywhere. At times it is necessary to remove all of the body excepting about one inch of the shell. Some central wood must be retained, even though it is less than one-thirtieth part of the original body. The remaining live wood should in every instance be treated with some penetrating substance that will kill germs or foreign substances which may have been overlooked by even a skilled workman. For this I would recommend eight ounces of corrosive sublimate mixed in one gallon of wood alcohol, which I found ample to do the work. If the cavity is a large one, bolts should be placed so as to prevent the wood from drawing away from the filling and to prevent splitting. The best filling now known is concrete. This is not moisture-proof. Therefore, after all excavation has been done and before the filling is made, the cavity should be painted with some water-proof paint. If this is applied thickly it will act as a cushion between the cement and live wood, often preventing the concrete from cracking during a heavy windstorm. The man doing the work should have a thorough knowledge of reinforced concrete. Reinforcing rods should be freely used, as at times the wind either is twisting or direct pressure may throw all its strain upon the concrete. This is especially true where the cavity is in a limb. The wood of a tree is naturally pliable. A limb has a wide range in bending before breaking, while there is proportionately no elasticity in concrete, therefore concrete must be made rigid and strong enough to overcome any possible wind pressure. If the workman makes his fillings in sections from 12 to 16 inches long and inserts tar paper or any other proof cushion filler, the danger of cracks in cement will be minimized, as will also the danger of allowing moisture or other foreign matter to get between or behind the concrete filling. A limb which is weakened in this manner should be bolted or chained to another strong limb. All bolts should be sunk into the wood and filled over with concrete so as to give the bark

an opportunity to heal over and naturally close or seal the injury. No chain should be wound around the limb or in any other way prevent natural circulation. A hook should be screwed into the limb and the chain fastened thereon, thus giving the smallest wound to the outer bark. The concrete in a cavity should be constructed in two parts, similar to the specifications of a concrete walk, the base consisting of five parts gravel, three parts sand and one part cement. The finish coat should not be less than one-half inch thick, of equal parts of sand and cement. Best results are obtained by using good, clean material of a standard commodity. The outer coat should be made to conform to the general contour of the tree and should not extend beyond the growing part or cambium layer. All concrete work should be finished troweled as neatly as a good concrete walk.

After filling is completed the outer bark should be traced back so as to remove all loose bark and form a sharp, clean and true edge. The top and bottom of the wound should be finished in a V shape. Less sap-flowing cells are cut in this manner than laterally or horizontally.

If all decay is removed and the cavity

filled so as to keep out all foreign substances, the tree will be as healthy in every particular as a tooth that has been properly filled by a reputable dentist. I believe, however, that tree surgery is advancing rapidly to the point where some material will be substituted for concrete. Whatever material that may be, we know that for the present concrete, if correctly applied, will make a true and lasting repair.

I have often been asked whether it would pay to go to this expense for other than sentimental attachment to a particular tree on the home grounds. Taking into consideration that the apple tree should still be in good bearing condition at the age of 200 years, the cost distributed over that length of time will be practically nil. Provided, of course, that judicious pruning is maintained during this time.

If wounds are cared for, results will be noticeable in the foliage and flowers, and if the fruit growers will attend to remedying the decay in the trees, results are bound to be noticeable in the fruit.

Caring for injured trees means, first, some study into the construction, habit, growth, and then some common sense correctly applied.

cutting your dandelions or you will have them thicker than ever.

Mr. Woodward: Which produces the thicker growth, the added crown or added seed? If you don't take the dandelion clear off and let the seed scatter, it would produce thousands of other plants. If you tear the head off, the plant will produce new crowns, which would multiply. You would have more in that way in that season.

Mr. Kern: At that time of year when dandelion is in bloom we are usually busy and there are other things to be done besides pulling heads off dandelions, and for that reason it is that the dandelion gets by us. We are too busy to send men to take out the dandelions and usually they are back on the job quicker than ever.

Mr. Cline: This spring I tried another experiment with dandelions. We have a great many of them, and just as soon as the flower showed far enough I had them go with a scythe over it and cut them off before the seed got ripe and rake that stuff off.

Corner Boundary Markers.

Editor Asked and Answered: Has the corner boundary marker or stone of the type usually erected by individuals any place in the modern cemetery? Is it customary now to make regulations prohibiting them? Do they serve any useful purpose save when there is snow on the ground and it is desired to establish locations for graves?—J. N., Conn.

The corner boundary markers are useful in enabling the owners of lots or the employees of the cemetery to at once determine boundaries. These markers can be of stone, concrete or other durable material. They should not project above the ground and there should be but one at each corner. For the purpose of securing uniformity in design and accuracy in placing the markers they should be furnished and set by the cemetery association instead of the individual lot owners. Another reason for their being furnished by the cemetery management is that, with the exception of the markers at corners of walks and drives, or corners of walks and other walks, they never should be set wholly on one lot. If four lots come together at one point, one stone should mark the location of this point, which would be determined by the intersection of grooves cut in the top of the stone, the stone itself being partly on each of the four lots. At Graceland the markers are made of concrete, are slightly convex on the top surface, which is placed even with the ground, and show, in addition to the lot lines, the lot number and name of the lot owner. When there is snow, it is easy to find them by shoveling it away.

O. C. SIMMONDS,

Landscape Gardener, Graceland Cem.
Chicago, Ill.

* * *

No doubt the writer of these queries has in mind primarily corner stones of various

ASKED AND ANSWERED

An exchange of experience on practical matters by our readers. You are invited to contribute questions and answers to this department.

Eradicating Dandelions.

(From discussion at Ohio Cemetery Convention.)

J. C. Cline: I would like to ask a question of these members here—if any of them know anything to eradicate the dandelion or keep it within bounds?

The President: We have something that I got from F. H. Rutherford, of Hamilton, Canada, last season, a little rake; they make a rake out of a solid piece of metal with teeth in the shape of knives something like the old mower knife without rod or blade, and we can just go right along with that thing and take the tops right off of the dandelions as they appear, clean them right off and in that way not allow one of them to go to seed. It is a fine thing for the purpose. It cuts them and keeps them down, but the biggest trouble is what the other fellow across the fence will do to you.

Mr. Cline: That is it. I will give you a little experience that I noticed in putting down a sanitary sewer from our comfort station. I had to dig through our lawn and we took the sod off and laid it to one side, dug the ditch and filled it in and put the sod back again. Where we took out the sod there are no dandelions growing. It showed a strip. There are no dandelions on that sod which we removed. I think if the sod is taken up and put back again, you

will kill the dandelions for one year. It might be an expensive job.

Mr. Woodward: You will get two shoots when you cut one off.

Mr. Cline: We only cut the sod about two inches. I don't think there are a half dozen visible on the six hundred feet. Wherever we cut sod in our field, where the dandelions are cut off they don't show in the sod the first year, but in the next year they will.

Mr. Kern: To substantiate what you said about the use of the rake which you advocated, I have been using about four of them for a number of years. They are an English rake. I believe they are made in England. They are a good thing. You are able to clean the lawn from dandelions on the surface by pulling the tops off, but you are not removing the root. Therefore it is absolutely necessary if we are determined to clean out the dandelions, you must repeat that operation at least for the coming two or three years, because by tearing off the top of the dandelion the first year, we are causing it to form five, six or seven where one grew before, and if we are not back the following year on the job with our rakes we will have thicker dandelions than ever before. And therefore I wish to caution you gentlemen who think well of the rake, you must keep it up if you are

sizes, outline and proportions, such as were formerly used by lot owners in accordance with their own ideas and tastes, to indicate as conspicuously as possible the boundaries of their individual lots.

This practice may still be in vogue in many cemeteries today and can have no other than a harmful and disturbing effect to the general appearance of the respective grounds. Corner stones of such type have no place in any modern cemetery, a fact which was recognized by most of the leading cemeteries many years ago and proper measures were taken to regulate this matter.

The desire of individuals to define the outlines of their burial lots in some distinctive manner undoubtedly was the primeval cause for the erection of enclosures of wood and iron, stone or plant material, and we may assume that the private boundary marker which usually projects above the surface of the ground to a various extent is the last remnant of this disastrous idea and should be relegated to the things of the past.

In some instances I have observed where individual lots were distinguished by means of changes in grade, which possibly eliminated the use of corner stones entirely, a practice which is equally to be condemned, inasmuch as it destroys the purpose to produce a natural and pleasing surface over the entire ground and detracts from the harmony of the scene.

All well-governed cemeteries have regulations relative to corner boundary markers, and the most important factor of all is that they must be set level with the surface of the ground.

Inasmuch as it is the duty of proprietors to place permanent landmarks on their respective lots, we incorporate this item at the time the sale is made and a nominal charge added for corner stones. The cemetery furnishes the stones of uniform size, 6x6 inches square and 24 inches in length, made of Vermont marble. The name of owner of lot is inscribed within the circular area of the stone; in the center number of section and lot are placed. The markers are set at their proper location by the employees of the cemetery. The land, of course, has been previously surveyed and the lots recorded. However, there are other kinds of stone used for markers which are more or less suitable, but I wish to mention especially the use of cement in making markers for which various efficient methods have been perfected, also their comparative inexpensiveness makes them attractive under conditions where they can be made to meet certain requirements. As to the usefulness and purpose of boundary markers, I do not consider it necessary to dwell further on the subject; without them we would soon be at sea.

CARL E. KERN,

Asst. Supt., Spring Grove Cemetery.
Cincinnati, O.

The modern cemetery marks all lot boundaries by suitable, permanent markers of uniform size, with lot and block number inscribed on same, thus making it a matter of record corresponding to the deed description.

Under no conditions should such markers stand above the general level of the lawn and in no case should names or initials of lot owners be inscribed thereon.

Individual ideas of how to mark the boundaries of cemetery lots may vary as radically as the individual ideas of the fitness of political candidates to fill certain positions. As a rule, the lot owner that wants to mark his lot his way thinks little about the lot owners adjoining. The writer knows of a case where a fairly wealthy lot owner bought a lot and knew that lot markers were to be placed on the corners of all lots by the cemetery. He ordered a monument and four large markers, 12x12 inches and 12 inches above ground, and a rough butt extending into the ground three feet. These markers were delivered at the cemetery and the superintendent promptly rejected them. Being an influential citizen, the president of the cemetery permitted him to have them placed at the corners of his lot, and he came out quite elated that he had gained his point. Again the superintendent refused to let the markers go in, claiming the rough butt was too large and would extend over on the next lot and prevent that lot owner from placing his marker on his lot line.

So the monument man was sent for and required to take these stones back to his shop and dress them down to 12 by 12 inches. After six months of contention the markers were placed and have been hideous features in the lawn of a modern cemetery. Should four such contentious lot owners happen to buy together there would be four times 12x12 inches on the lawn, perhaps four kinds of stone, of four kinds of designs, and of four sizes where these four lots come together.

This is proof enough that no modern cemetery should offer lots for sale before lot markers are in and there should be just one marker for each lot corner, whether it be an individual single corner, a double corner, or the corner of four lots.

The following rule is in force in all well regulated modern cemeteries: "The corners of each lot will be permanently marked by the Association," also this rule: "No lot or parcel of ground shall be defined by so-called fences, railings, copings, hedges, embankments, or ditches."

Markers with top above the ground level do not mark lot better or more permanently than do those level with the ground and are easily found even when the ground is covered with snow. One familiar with a plan can find such corners without difficulty.

Markers made of cement or hard burned terra cotta are made to order. Advertisements for such markers are found in the advertising pages of PARK AND CEMETERY AND LANDSCAPE GARDENING. A very useful device whereby cemeteries can make their own markers is offered for sale by Mr. Bellett Lawson, whose advertisement is carried in this paper. With this device the ordinary laborers in a cemetery can make markers on rainy days when outside work is not possible.

HARE & HARE,
Landscape Architects.

Kansas City, Mo.

* * *

As to corner markers, we find them especially useful on Easter and Decoration Day, as well as on Thanksgiving Day and at Christmas time, when thousands of cut flowers, plants and wreaths are placed upon the graves. In fact, they are so useful to us at all times that I can scarcely conceive how we could now get along without them. I am mindful, however, of the fact that twenty years ago we had few corner stones, and no telephones or automobiles in Lake View, and both the Superintendent and the lot owners got along somehow and were perhaps as happy as in these days.

Of course in communities where different customs prevail and florists are not allowed to enter the grounds, the use of corner markers is not so imperative. Yet as human nature is much the same the world over it would seem reasonable to suppose that lot owners generally delight to see their names upon a corner marker, and find a keen satisfaction in knowing the exact boundaries of their landed possessions. We have found it most satisfactory not to place a section on the market until all the corner markers have been accurately set and numbered, and of course the cost is included in the price asked for the lot.

In what might be called our "De Luxe" sections, where the lots are large, the corners are indicated by a 6x6 inch dark Quincy granite marker, polished and set flush with the grade, the number of the lot being cut thereon diagonally across the inner corner and the name of the owner above it, so that both are readable from the center of the lot. In sections where smaller lots prevail, that is; lots designed to provide for from two to six burials, and upon which monuments are not permitted, the corner is marked by a 3x3 inch piece of Georgia marble, or a piece of slate.

For the convenience of our salesmen our gardeners are required to keep the corners of all unsold lots uncovered and plainly visible at all times; and they are also required to cut back the grass from around all corner markers twice each year. We find that this practice of keeping the corner markers visible is a great help in elim-

Tarvia

*Preserves Roads
Prevents Dust*



*Road leading to Mausoleum.
Rosehill Cemetery, Chicago, Ill.
Constructed with "Tarvia-X".*

Waterproof Roads

THE problem of clean, sightly roadways in parks and cemeteries is largely a problem of providing them with waterproof surfaces. A surface of fine stone screenings is good, but it won't last under modern traffic, or under the heavy strains incident to the transportation of monuments.

A better and surer way is to bond the surface with Tarvia. Tarviated roads

drain immediately and furnish clean footing for pedestrians even after a storm.

Tarviated roads do not soak up any water and accordingly are immune from damage by frost. After a hard winter tarviated roads are found practically unaffected by the seasons's exposure, while a plain macadam will be ruined. We do not try to make one product satisfy all road problems but we make Tarvia in three grades, ranging from "Tarvia-X", which is very dense and requires heat for application, to "Tarvia-B", which is liquid while cold and will percolate into the fine interstices of a well-compacted roadway.

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inating mistakes, misunderstandings, and confusion.

FREDERICK GREEN,
Supt., Lake View Cemetery.
Cleveland, O.

* * *

I think it equally as important to have good, substantial stone corner posts in a modern cemetery as in a rural graveyard. In Crown Hill Cemetery the rules require all lots to be marked with stone posts the size 6x6x24 inches. These posts identify the lot at once by having the name of the owner, the number of lot and the section cut in plain letters. We find them equally as useful in summer as in winter. All corner posts are set flush with the surface, do not show except when you are directly over them, and they do not in any way interfere with labor.

JOHN J. STEPHENS,
Supt. Crown Hill Cemetery.
Indianapolis, Ind.

* * *

Rock Creek Cemetery, Washington, D. C., prohibits the erection of any marker except the one originally placed there by the Cemetery. Boundary markers should not be higher than the level of the ground. I am sure you will not find any in any modern cemetery above that level. In the older part of the cemetery we allow markers 3 inches high, but in all our new sections they must be on the level of the ground. The high markers are a great drawback to the mowers; time is lost trying to cut around them; they are unsightly and of no use. The perfectly level greensward is the prettiest and the easiest to keep clean and in order. In my observation of the modern and up to date cemeteries I have yet to see a marker above the ground.

R. D. HOWELL,
Treasurer Rock Creek Cemetery.
Washington, D. C.

Salary of Superintendent.

Replying to a recent inquiry in "Asked and Answered" as to what might be a proper salary for a superintendent of a new cemetery of about 125 acres in a city of about 25,000 population. You no doubt are fully aware of the fact that the main part of a cemetery is the landscape gardening. If you have a man in view who is competent of working out all of the details in connection with landscape gardening, also to properly handle the help, keeping account of the finance part of the work—in fact, acting for both superintendent and secretary, I would say that such a man would be worth not less than \$100 per month, with free house rent; however, if he is only an overseer and must depend upon some one for planning and suggesting, I would say one-half of that salary would be ample.

THOS. JOANNES,
President Woodlawn Cemetery.
Green Bay, Wis.

Combining Entrance Gates and Buildings.

We are about to put up new gates and building in front of our cemetery, all in one building, the arch in the middle, office on one side, waiting room and toilets on the other, and up above, six living rooms—to cost about \$8,000. Could you tell us where there is such a building, so we can write to them for particulars?—D. C., Neb.

While we do not know of any cemetery that has exactly the same layout as this, the following have entrances corresponding more or less closely to your proposition, that is, they combine the buildings with the gates in one way or another: Cave Hill Cemetery, Louisville, Ky.; Cypress Lawn Cemetery, San Francisco, Cal.; Fairmount Cemetery, Denver, Colo.; Wyuka Cemetery, Lincoln, Neb.

Auto Trucks in Cemeteries.

Editor Asked and Answered: I should be pleased to know something in regard to the use of an auto truck in a cemetery. I should like to hear from any of the superintendents who are using them in place of horses. Are they being used with success, and what makes are they using, and also how heavy, and whether horses can be dispensed with when a truck is used.—T. W., Mich.

The best discussion of using auto trucks in the cemetery is to be found in a paper on this subject presented by Edward G. Carter, Superintendent of Oakwood Cemetery, Chicago, before the 1911 convention of the Association of American Cemetery Superintendents, held at Philadelphia, and printed in the proceedings of this convention. We presume that you saw the article in the December issue of *PARK AND CEMETERY*, on "The Use of Motor Buses in Cemeteries."

Receiving Vault Beneath Chapel.

In the "Asked and Answered" column of your December issue, "A. P. B." inquired if instances can be given of a receiving vault being placed below a cemetery chapel. I may say that that is the case in this cemetery and we do not find it objectionable in any way. In this climate it is impossible to prepare graves as they are required during the winter months, the ground being frozen to a depth of 5 or 6 feet at this time of the year. It is customary, therefore, for the services to be held in the chapel and the coffins lowered into the vault in the same manner that they would be into the grave.

WM. R. READER,
Parks and Cemetery Supt.
Calgary, Canada.



Royal Palm Nurseries, of Oneco, Fla., have issued a very handsomely illustrated catalog for 1916 which contains a long list of plants, trees, etc., especially adapted to climatic conditions of the South. Some of their specialties are: Tropical fruit plants and trees, semi-tropical and temperate fruit trees and plants; economical, medicinal and useful trees and plants; bamboos and grasses; aquatics, conifers, palms and cycads; ferns and selaginellas; foliage and decorative plants; tropical flowering plants and shrubs; hardy and half-hardy flowering plants and shrubs; tropical and subtropical vines and creepers; hardy and half-hardy vines and creepers; tuberous, bulbous and herbaceous plants; tropical shade trees; hardy and half-hardy shade trees, and succulents and epiphytes.

Agitation for more parks and playgrounds for the south part of the city of South Bend, Ind., has been spreading throughout the Seventh Ward and it was taken up for discussion at a meeting of the Oliver Civic Club recently. G. F. Haslanger, president of the Elder Club, gave a short talk at the Oliver meeting, in which he spoke about the need for more playgrounds in that district and the attempt of the Park Board to put in a golf

course at Studebaker Park over the wishes of the people.

"The Prairie Spirit in Landscape Gardening," issued by the University of Illinois, is a 36-page circular containing 100 illustrations. It is uniform with "The Illinois Way of Beautifying the Farm" (Circular 170), the page being 9 1/4 x 12 inches. The aim of "The Prairie Spirit" is to show "what the people of Illinois have done and can do toward designing and planting public and private grounds for efficiency and beauty." Contents: Chapter 1, The Prairie Style of Landscape Gardening; chapter 2, Everyone Can Apply the Principle of Conservation; chapter 3, A Free Restoration of Ancient Illinois; chapter 4, Restoration Applied to Farmstead and City Lot; chapter 5, Restoring the Romantic Types of Illinois Scenery; chapter 6, Can the Prairie be Restored; chapter 7, Everyone Can Apply the Principle of Repetition; chapter 8, Adapting the Prairie Style to Other Kinds of Scenery; chapter 9, Materials Used in the Prairie Style; chapter 10, Some Uses for Illinois Materials; chapter 11, Literature of the Prairie Style of Landscape Gardening; chapter 12, The Showiest Plants in the World. The first eleven chapters are devoted to various

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cut-over lands, for sandy soils and other bare, unproductive, unsightly places, for worn-out pastures, for lands useless for other purposes. Use White Pine to increase the value of country building sites, for underplanting in shady places; in woods where chestnut trees have died out.

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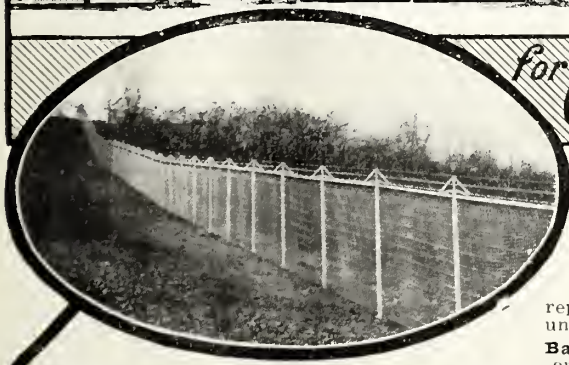
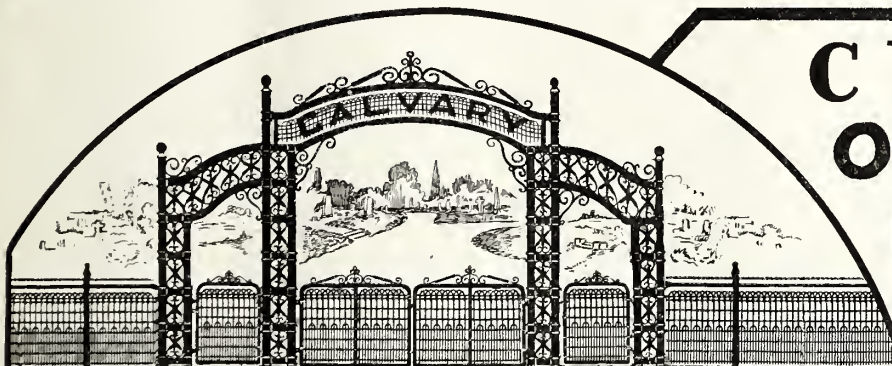
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For best and quickest results use twice transplanted trees.

Let our men plant your trees for you. Many of our foremen and men have been with us for ten or twelve years and with their scientific training and years of valuable experience are versed in all matters pertaining to trees and tree planting. These men are at your service and we should be pleased to not only furnish you with trees, but also to plant them for you.

CYCLONE Ornamental Fencing and Entrance Arches

for Cemeteries, Parks and Private Grounds.



Either as a matter of sentiment or practical utility, this fence and arch are satisfying to the public and to owners of estates.

Cyclone Non-Climbable Fence makes a substantial, economical improvement, which enhances the beauty of the grounds and effectively protects them against intrusion at every point. Built of heavily galvanized wire closely and evenly spaced and so strongly woven that it resists severe shock or strain. Fire-proof and rust-resisting; stands many years without repairs. We build it in all practical heights. Easy to erect—adjusts itself to uneven ground.

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Posts of Heavy Tubular Steel, stronger than any other style post and more durable.

Cyclone Entrance Arches are beautiful in design and substantially built. Upright posts of extra heavy 2-inch tubular steel, firmly held together with malleable clips, and fitted with pressed steel anchor bases. Scroll work is heavy wrought iron securely riveted. All galvanized or painted black enamel, as desired.

These arches can be used with any style fence, either that shown above or the Non-Climbable fence shown in circle at left.

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Our Engineering Department will advise with you free concerning your fencing problems, and will co-operate with those in charge of public grounds or private estates. Construction engineer to superintend erection furnished at nominal cost.

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phases of the prairie style of landscape gardening, which aims to fit the peculiar scenery, climate, soil, labor and other conditions of the prairies, instead of copying literally the manners and materials of other regions. The prairie style is defined as "an American mode of design based upon the practical needs of the middle-western people and characterized by preservation of typical western scenery, by restoration of local color, and by repetition of the horizontal line of land or sky, which is the strongest feature of prairie scenery." This repetition is accomplished by means of "stratified plants," which have strong horizontal branches or flower clusters, like certain hawthorns or thorn apples. An historical sketch traces the beginnings of

this style back to 1878, but the most characteristic development began in 1901. Since then one landscape gardener has submitted an itemized list of work amounting to \$6,000,000, done in Illinois and near-by states, which he declares was "inspired by the prairie." Twenty-seven of the photographs represent conscious efforts in the direction of a prairie style. "The Prairie Spirit" is too expensive for unlimited free distribution. Free copies are sent to Illinoisans who promise to do some permanent ornamental planting within a year. Outside the state it can be sent free only to members of organizations allied to landscape gardening and to a few individuals who have a special interest. If copies are wanted in quantity, apply to the University of Illinois, at Urbana.

CEMETERY NOTES

At the seventh annual meeting of the trustees of the Riverview Cemetery Association, of Streator, Ill., the following officers were elected to serve for the ensuing year: President, E. H. Bailey; vice-president, S. W. Plumb; secretary, George Goulding; treasurer, H. W. Lukins. The report of the secretary showed the affairs of the association to be in a satisfactory condition. While no important improvements were undertaken the grounds and lots have been maintained in good physical order. During the year a piece of ground lying between the present grounds and the railroad right of way was purchased from the Chicago & Alton Railroad Co. Perpetual care bonds were issued during 1915 to the amount of \$715. This fund now amounts to \$2,240.

Residents of Muskegon Heights, Mich., are urging the Muskegon Heights Council to purchase land for a cemetery which may be had for back taxes.

The Cave Hill Cemetery Co., of Louisville, Ky., beginning January 1, have increased the cost of the space for a single grave in the cemetery \$6. This was done because the difference in the money derived from the sale of lots and single graves has been so great that the company decided to more nearly equalize the cost.

Walnut Grove Cemetery Association, of Boonville, Mo., recently issued a financial report for the year 1915. Following are some statistics of interest: General fund—Receipts: Balance on hand, January 1, 1915, \$2,210.22; from sale of lots and parts of lots (60 per cent), \$1,016.76; for interments, \$585; for concrete foundations, \$342.75; for care of old lots, \$371.80; for interest on investments, \$630; total, \$5,165.03. Disbursements: For labor, \$646.15; for tools and utensils, \$59.05; for two lots in Henry addition, \$151; total, \$2,338.72.

Balance in general fund, January 1, 1916, \$2,826.31. Perpetual Care Fund: On hand January 1, 1915, \$9,723.71; received from sale of lots and parts of lots (40 per cent), \$677.84; received for perpetual care of old lots, \$205; total in perpetual care fund, January 1, 1916, \$10,606.55. Grand total in both funds, \$13,432.86.

The Battle Creek *Enquirer* recently gave considerable space to illustrations and an outline of plans, prepared by Swain Nelson & Sons, of Chicago, for the enlarging and replatting and replanting of the grounds of Oak Hill Cemetery, Battle Creek, Mich.

At the annual meeting of the Riverside Cemetery Association, Three Rivers, Mich., held January 10, the following trustees were elected for a term of three years each: Fred D. Merrill, to fill vacancy of Charles H. Prouty; Karl Klocke, and James Klotz. The financial report showed \$14,905.56 in the sinking fund and \$13,236 in the memorial fund. The trustees held a meeting January 20 and all the old officers were re-elected. W. H. Sloan is superintendent of the cemetery. The advisability of allowing automobiles to enter the cemetery and use the main drive is up before the directors for consideration.

New Cemeteries and Improvements.

Woodlawn Cemetery Association was incorporated recently at Texarkana, Ark., capitalized at \$10,000. The officers are: E. L. Krouse, president; Frank Hill, vice-president; T. A. Bryant, secretary.

Appomattox Cemetery Corporation, of Hopewell, Va., was incorporated recently with a maximum capital of \$50,000; minimum, \$5,000; par value, \$100. L. W. Rolfe is president; S. W. Fulford, secretary, both of Hopewell.

Mountain View Cemetery Association has been incorporated at Tacoma, Wash. Herbert Hunt, Arthur H. Bassett, James

A. Pleasants and William Petrie are the incorporators.

The Lake View Cemetery Association, of Kendallville, Ind., recently purchased a 100-acre farm just across the highway on the west and opposite the cemetery, for a consideration of \$15,000, where a new cemetery will be developed.

With appropriate and impressive ceremonies the new cemetery of the Temple B'Nai Israel at Elrod, Pa., was consecrated recently. The cemetery faces 315 feet on Center street, at Elrod, in Versailles Borough, running back over 800 feet, and consists of six acres.

The Board of Regents of Fairview Cemetery, New Albany, Ind., has secured the deed for land owned by John W. Glanville, which gives them possession of the entire tract of ground on E. Fifth street, north of Culbertson avenue, and will enable them to add a large tract to the cemetery grounds.

Cemetery Officers Elected.

The following officers of the Madison Cemetery Association, Madison, Ia., for the ensuing year were elected: G. B. Coffin, Charles Bailey, Frank Whitehead, J. B. and J. F. Cruzen, trustees; Frank Whitehead and J. B. Cruzen, caretakers; J. F. Cruzen, president; J. B. Cruzen, secretary, and Frank Whitehead, treasurer.

St. Vincent's Cemetery Association, of La Salle, Ill., has elected N. W. Duncan president and J. B. McManus secretary.

The Mt. Hope Cemetery Association, of East St. Louis, Ill., recently elected Paul W. Abt president and Rev. Jaeger secretary.

General Charles T. Cates, Jr., and C. B. Atkin were elected directors of the Greenwood Cemetery Co., Knoxville, Tenn. The directors chose as officers: Dr. R. N. Kesterson, president and treasurer; E. E. McMillan, vice-president, and Thomas O. Kesterson, secretary.

The following are officers of the Ladies' Cemetery Association, of Atlanta, Ill., elected at the annual business meeting: President, Mrs. Mary E. Mix; secretary, Mrs. Nannie Shores.

Joseph Emmett was elected president and O. T. Smith secretary of the Oakland Cemetery Association, Freeport, Ill., recently.

The I. O. O. F. Cemetery Board, of Alexandria, Ind., reorganized recently and elected F. S. Culbertson president and W. I. Hughes secretary.

The Summit View Cemetery Association, of Ottawa, Ill., elected Mrs. Lena McCully president and Mrs. Renna Bowermaster secretary and recording secretary.

G. A. Phipps was recently elected secretary-treasurer of the Huntsville Cemetery Association, Huntsville, Ind.

Mrs. Emma Kinkade has been elected president and Mrs. Clara Fisk secretary of the Oakwood Cemetery Club, of Hamilton, Ill.



Pierson U-Bar Co., Architects

An Important Park Job

In a subsequent issue we are going to show you other views and give full particulars of this mammoth show house, with the extensive growing and experimental houses in the rear.

It was recently completed for the St. Louis, Botanical Gardens. If you would like information at once, we will gladly send you the details, along with an exceptionally interesting lot of photographs.

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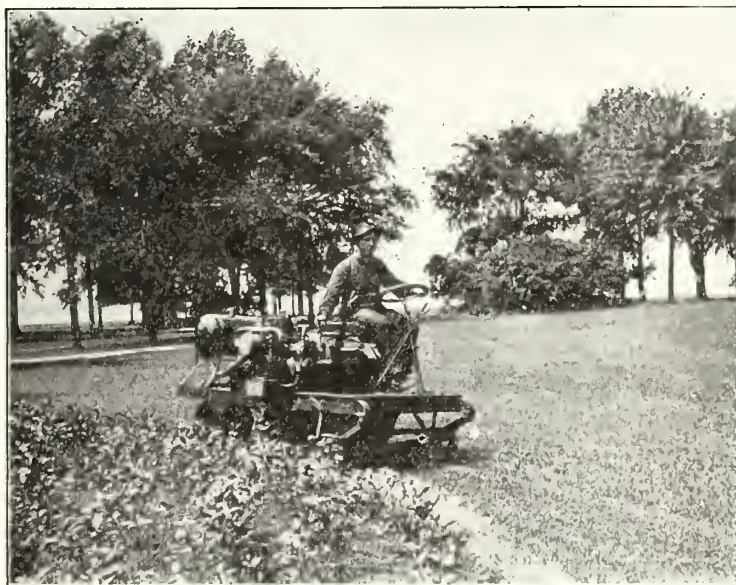
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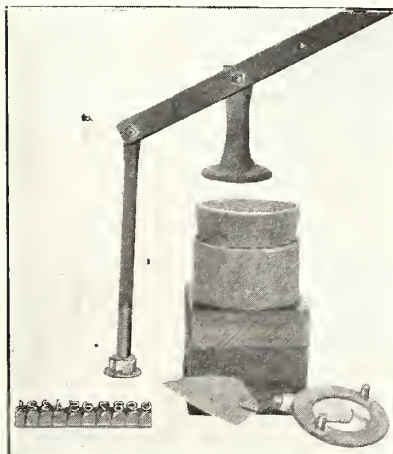
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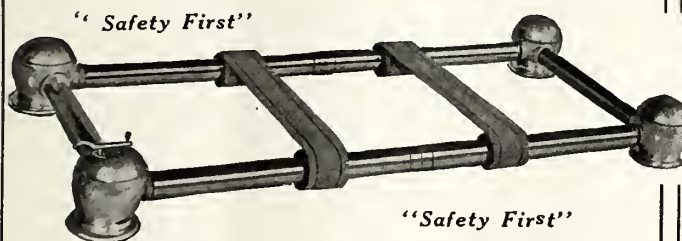
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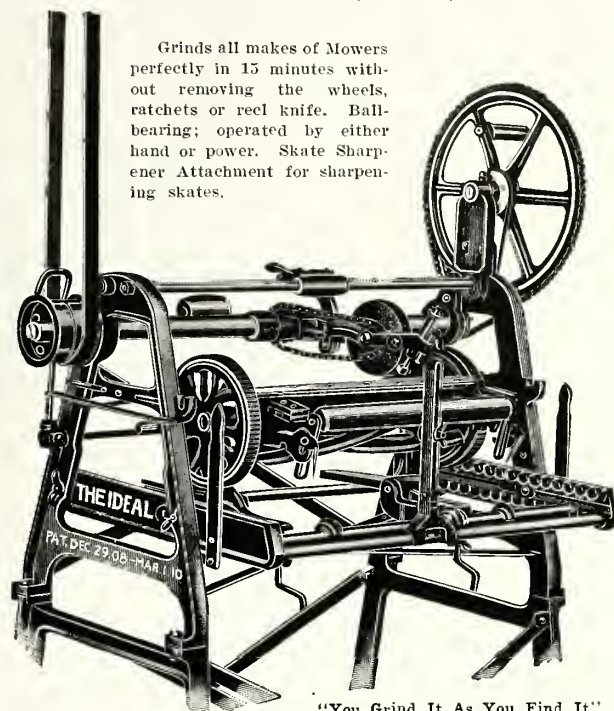
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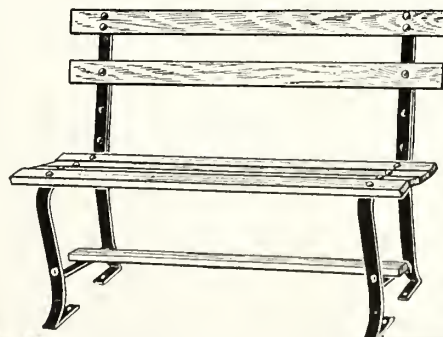
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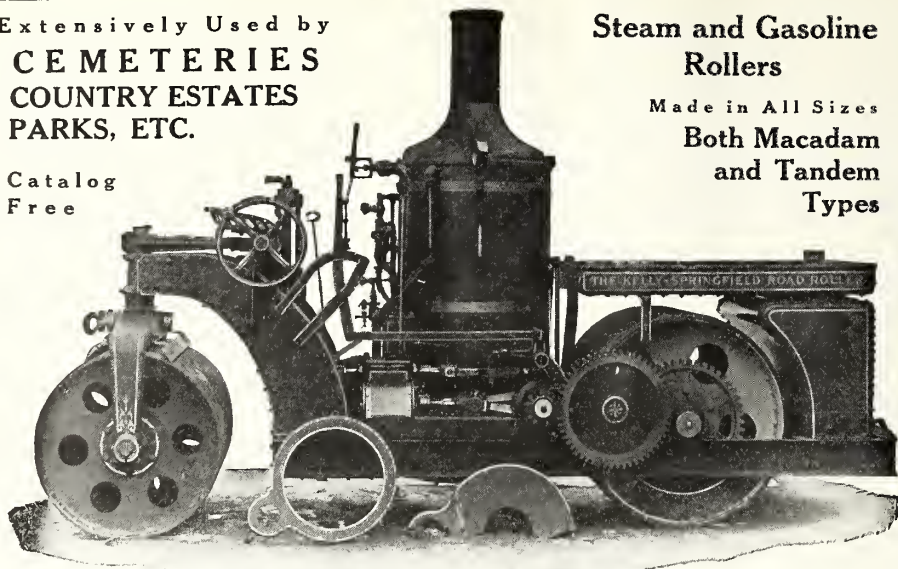
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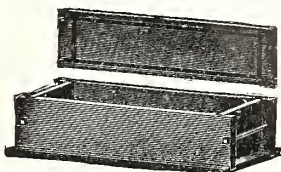
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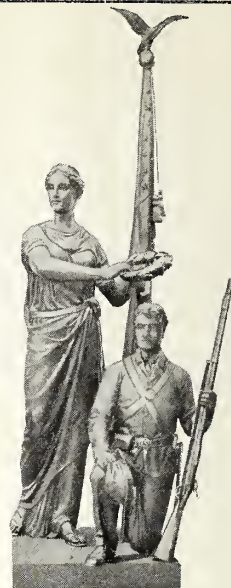
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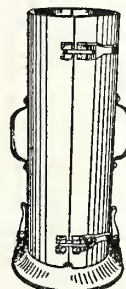
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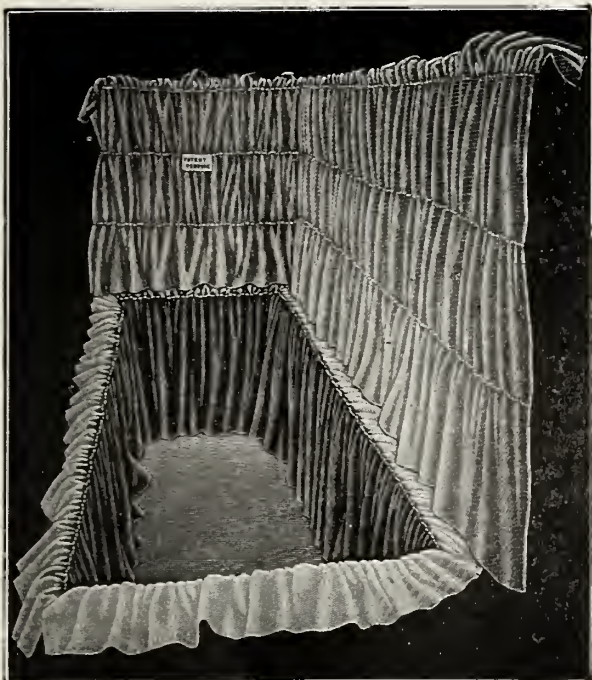
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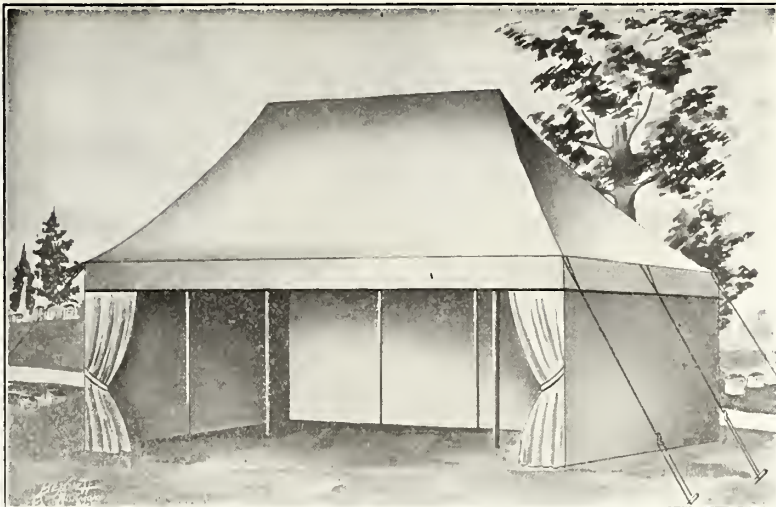
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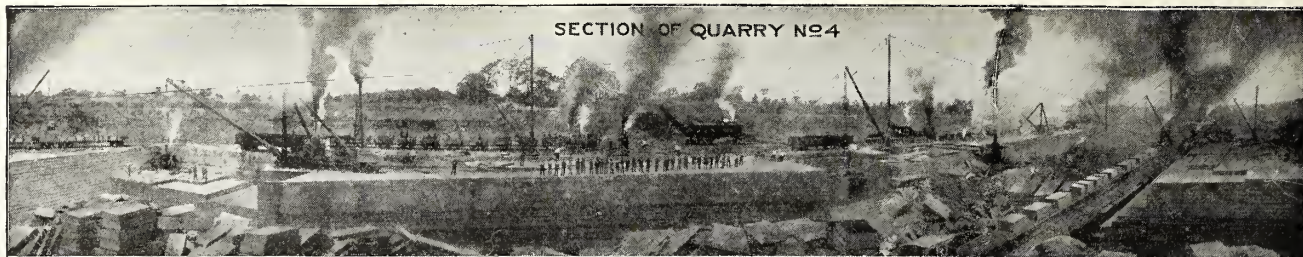
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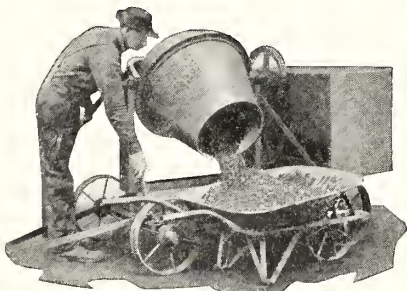


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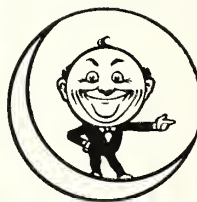
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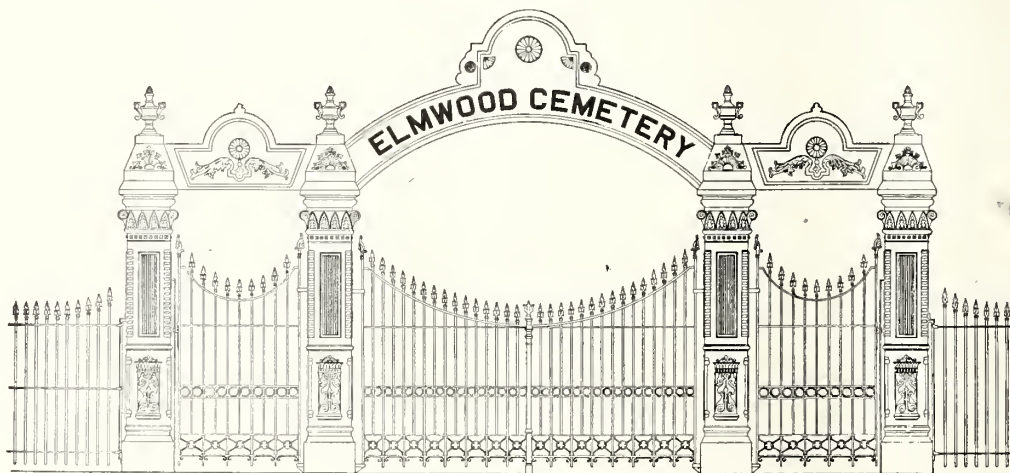
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